

Service Manual

CoaDATA 2001

CoaDATA 4001



For Hardware Version 2

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1. Instrument version
Serial production
Hardware Version 2

Serial number
K 08 7 3014 upto running no.

Program version	V 2.00.00
Bootloader	CD24-Bootloader V 1.00

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Prologue

This service manual is based on the Hardwareversion 2 of CoaDATA 2001/4001.
This version is the basis for all written documentation and drawings.
Program version V 2.00.01 Release Feb. 14th 2008 is the basis for the software.
Modifications due to further development of this product might be possible.

This technical documentation has been developed for skilled technicians only.
It shall enable the technician to service the analyzer.
It cannot replace a thorough service training.

Ahrensburg, October 2008

Purpose

CoaDATA 2001/4001 HW Vers. 2 is a further development of CoaDATA 2001/4001 HW Vers. 1. This instrument is an opto-mechanical coagulation analyzer based on the turbodensitometrical measuring principle. All routine coagulation tests can be run on this analyzer.

Instrument description

CoaDATA 2001/4001 is high integrated.

The user communicates via display and enters all settings by the membrane keyboard.

The measuring channels are selected by the keys CH1 to CH2 / CH1 to CH4.

Cuvettes are detected automatically.

The menu is selected by the < and > keys as well as the mode, Esc and Enter key.

Parameters are entered by the number keys.

The measuring channels are heated to 37,4°C in a thermal block.

In this block there are 4 additional positions for reagent bottles and 4 cuvette wells per channel.

In order to print the results a thermal printer is integrated into the instrument.

On the back side of the instrument is the socket for 115/230 V, 60/50 Hz power supply. Above the socket is the switch for the power supply. I is switched on, O is switched off.

It is mounted in one module together with the voltage selector and the fuse holder.

On the back side of the instrument there is also one/two RS232 port for data communication with a check box or an external PC.

Security directions

Check whether the voltage selector is in correct position before connecting the instrument to the mains.

Use only power cables with ground connection to connect the instrument to the mains.

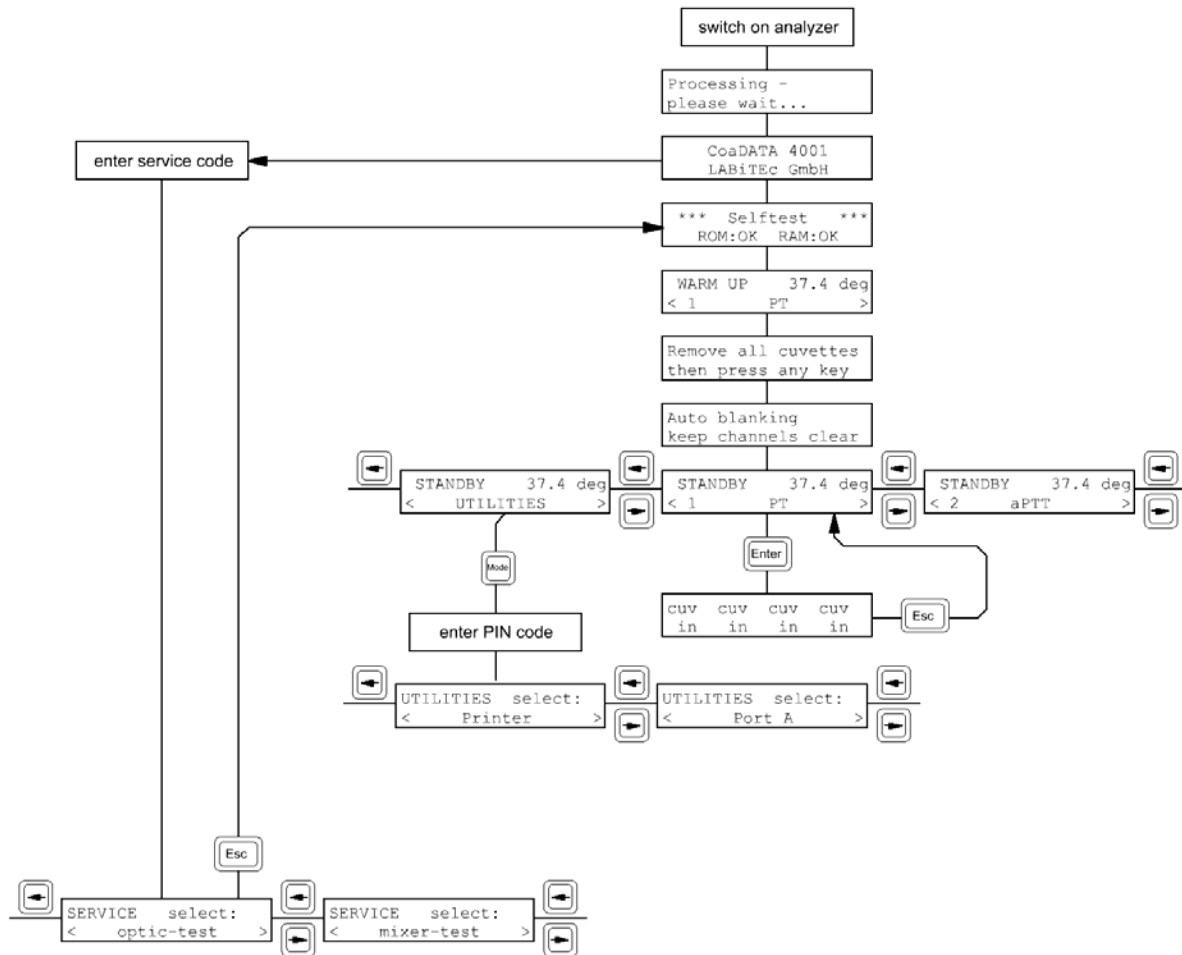
Use only power sockets with ground connection.

Never interrupt the ground connection!

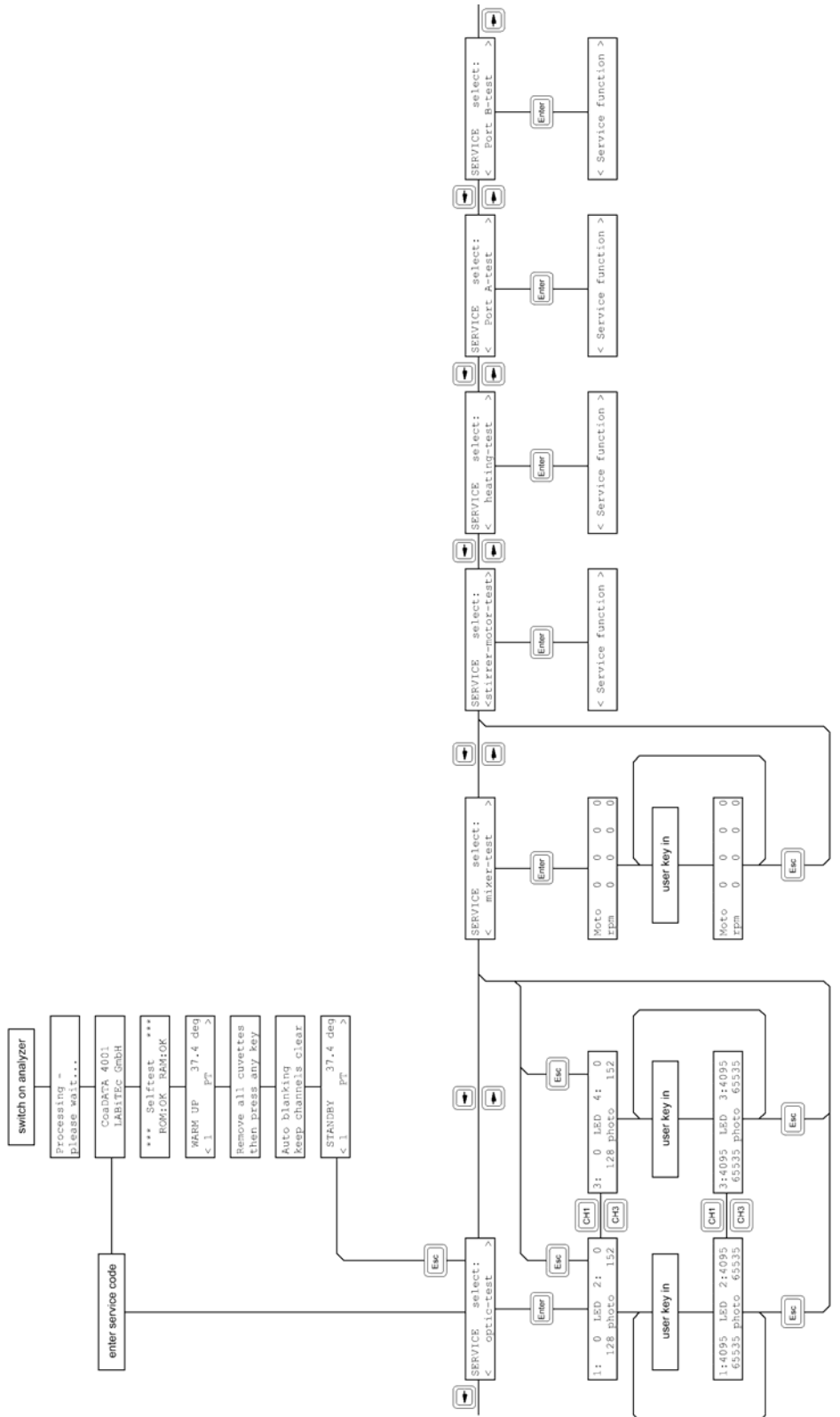
Make sure the instrument is not exposed to humidity, explosive gases and magnetic interferences.

Pull the power socket before opening the instrument.

Software Structure: Start up procedure



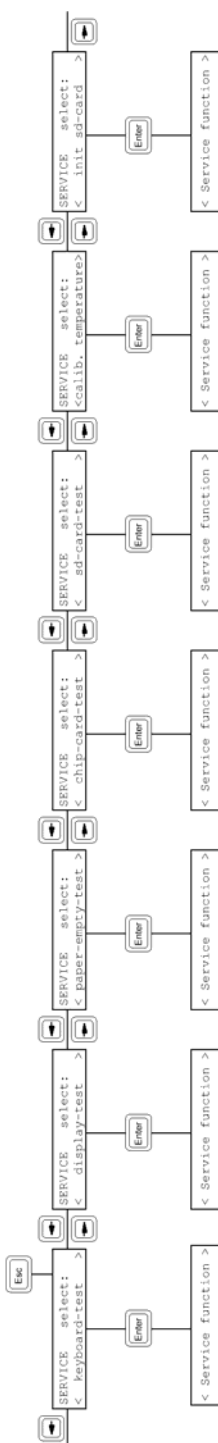
Software Structure: Service Menu



Software Structure: Service Menu

Contd.

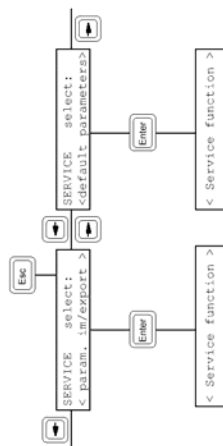
1



Software Structure: Service Menu

Contd.

1



Service Mode What for?

The service mode in the CD2001 / CD4001 gives you the possibility to check the individual modules and functions.

It can be accessed by authorized staff like the service technicians only.

The service routine is part of the operating software installed in the analyzer. According to the drivers used in the installed software the individual functions can be tested.

Functions

The service mode has several test and calibration functions.

Test Functions

1. optic test
2. mixer test
3. stirrer motor test
4. heating test
5. Port A test
6. Port B test
7. keyboard test
8. display test
9. paper-empty-test
10. chip-card-test
11. sd-card-test

Calibration functions

1. calib. temperature
2. init sd-card
3. param. Im/export
 - 3.1 Export -> SD-Card
 - 3.2 Import <- SD-Card
4. default parameters

2

Access to the service mode

The service mode is part of the installed software. A special number code grants access for the technician. This code can be entered only after the instrument has been switched on.

1. Switch on the analyzer

```
reading parameters  
from internal
```

```
Coa DATA 4001  
LABiTec GmbH
```

2

While the upper line is displayed it is possible to enter the number code.

```
Coa DATA 4001  V2.00.00  (c) Feb 14 2008  
                  LABiTec GmbH
```

- Each key stroke is confirmed by a beep tone.
- It is not possible to correct the entry.
- To repeat the number code the analyzer has to be switched off and on again.

If the number code was entered successfully the service mode will be opened.
It will be displayed as follows:

```
SERVICE      select:  
<  optic-test  >
```

The number code **2 2 9 2 6** opens the service menu.

Important:
The number code is secret and shall not be made accessible to unauthorized personnel.

Optic-test

```
SERVICE      select:
<    optic-test    >
```

By pressing the **Enter** key the following function will open.

```
1:   0   LED   2:   0
   128 photo   151
```

Enter the reference value for the LED and confirm with the **Enter** key. The LED will have the necessary brightness. The receiving signal of the photo transistor will be displayed.

```
1:4095   LED   2:4095
   65535 photo   65535
```

By pressing the **Enter** key the parameters for the next channel can be entered.

Pressing the **CH3** or **CH4** key the display will show the channels 3 and 4 ^②

```
1:4095   LED   2:4095
   65535 photo   65535
```

Pressing the **CH1** or **CH2** key the display will show the channels 1 and 2 ^②

In this function the reference value for the LED is not a fixed lamp voltage.

It is rather a PWM ^① signal.

The lamp intensity canNOT be regulated with this test.

The photo transistor signal depends on the instrument. There may be deviations between all channels.

Ranges:

	Minimum	Maximum	Unit	
LED	0	4095	Digit	0 = off
Photo	100	65535	Digit	

	Minimum	Maximum	Unit	Photosensor
LED	0	100	Digit	> / = 1000
	400	1300	Digit	> / = 65535

Exit this function

By pressing the **ESC**-key once this function can be exited.
The LEDs remain switched on.

^① PWM-Signal= pulse width modulated signal

^② Option only available in CoaDATA 4001

Mixer-test

```
SERVICE      select:
< mixer-test >
```

By pressing the **Enter** key this function will open.

```
Moto  0  0  0  0
rpm    0  0  0  0
```

Enter the reference motor revolution value and confirm with **Enter**. The motor will turn accordingly. The receiving signal of the IR reflecting light barrier will display the revolutions.

```
Moto 500 500 500 500
rpm  500 500 500 500
```

By pressing the **Enter** key you can change to the next channel.

Ranges:

	Minimum	Maximum	Unit	
Motor	0			0 = off
	190	999	Rpm	

	Minimum	Maximum	Unit	Tolerance
Motor	200	500	Rpm	+ / - 50

Exit this function

You can leave this function by pressing the **ESC** key once. The motors continue functioning.

Stirrer-motor-test

```
SERVICE      select:  
<stirrer-motor-test>
```

By pressing the **Enter** key this function will open.

```
Stirrer-motor-test  
1=on 0=off      0 rpm
```

2

Here you can check the reagent stirrer motor. You will need a GW15 bottle filled with 5ml Aqua-Bidest and a 3x13 mm teflon stirrer.

Put the bottle into the left reagent well of the thermal block.

By pressing the keys **0** or **1** the display shows the actual stirrer motor speed.

```
Stirrer-motor-test  
1=on 0=off      250 rpm
```

After being switched on the teflon stirrer must turn in the reagent bottle.

Ranges:

		Target speed	Unit	
Status	0	0	Rpm	0 = off
	1	250	Rpm	+ / - 50

Exit this function

You can leave this function by pressing the **ESC** key once.
The motor will stay switched on or off.

Heating-test

```
SERVICE      select:
< heating-test >
```

By pressing the **Enter** key this function will open..

```
Heating:      0 %
NTC:          27600
```

Here you can check the heating and the temperature sensor.

When you start the test the heating is turned off which means 0% performance.
Enter a value between 1 and 100% and the heating will be switched on by checking the pulse-pause relation.

If you want to check whether the temperature sensor and the heating work read the NTC value. If this value falls while the thermal block temperature rises the heating is switched on.

Important:

In this mode it is possible to heat the thermal block up to 70°C.

Ranges:

	Minimum	Maximum	Unit	
Heating	0	100	%	0 = off

Exit this function

Before leaving this function **put** the heating back to **0%** that means **switch it off**.

You can leave this function by pressing the **ESC** key.

Port A-test

```
SERVICE      select:
<  Port A-test  >
```

By pressing the **Enter**-key you will open this function.

```
Port A-test
9600 baud
```

2

Here you can check the serial port. You will need a special test plug which can be ordered as „service tool“ .

The functions TxD => RxD will be checked

After plugging in the test plug the keys of the membrane keyboard can be pressed and will be confirmed by a beeping signal.

If the serial port functions the key code will be displayed and another beep can be heard.

The key codes:

Key	Code	Key	Code
0	0	CH1	A
1	1	CH2	B
2	2	CH3	C
3	3	CH4	D
4	4		
5	5		
6	6		
7	7		
8	8		
9	9		
<	<0d><0a>		
>	>		
Mode	Mode<0d><0a>		
Enter	Mode<0d><0a>	Starts Repeat-mode	
ESC	ESC	Test End	

With the **Enter** key you will get into the Repeat mode which will continuously transmit the code for the last pressed key to the serial port.

Exit this function

You can leave this function by pressing the **ESC** key.

Port B-test

```
SERVICE      select:
<  Port B-test  >
```

By pressing the **Enter**-key you will open this function.

```
Port B-test
9600 baud
```

2

Here you can check the serial port. You will need a special test plug which can be ordered as „service tool“ .

The functions TxD => RxD will be checked

After plugging in the test plug the keys of the membrane keyboard can be pressed and will be confirmed by a beeping signal.
If the serial port functions the key code will be displayed and another beep can be heard.

The key codes:

Key	Code	Key	Code
0	0	CH1	A
1	1	CH2	B
2	2	CH3	C
3	3	CH4	D
4	4		
5	5		
6	6		
7	7		
8	8		
9	9		
<	<0d><0a>		
>	>		
Mode	Mode<0d><0a>		
Enter	Mode<0d><0a>	Starts Repeat-mode	
ESC	ESC	Test End	

With the **Enter** key you will get into the Repeat mode which will continuously transmit the code for the last pressed key to the serial port.

Exit this function

You can leave this function by pressing the **ESC** key.

Keyboard-test

```
SERVICE      select:  
< keyboard-test >
```

By pressing the **Enter** key this function will be opened.

```
KEYBOARD-TEST  
press any key
```

2

Here you can check the membrane keyboard.

Pressing each key will be displayed.

Exit this function

You can leave this function by pressing the **ESC** key.

Display-test

SERVICE	select:
<	display-test
	>

By pressing the **Enter** key this function will be opened.

When selecting this function all pixels will be displayed.

After that the ASCII characters will be displayed.

Exit this function

The test can be discontinued by pressing the **ESC**-key.

paper-empty-test

```
SERVICE      select:  
< paper-empty-test >
```

By pressing the **Enter** key this function will be opened.

```
PAPER-EMPTY-TEST  
paper exists
```

```
PAPER-EMPTY-TEST  
no paper
```

Here can check the function of the printerboard's paper sensor.

The sensor status will be displayed.

Exit this function

You can leave this function by pressing the **ESC** key.

chip-card-test

```
SERVICE      select:  
< chip-card-test >
```

By pressing the **Enter** key this function will be opened.

```
CARD-TEST  
Insert card
```

This function checks the chipCARD reader on the right side of the analyzer.

After placing the card in the correct way into the card reader the status will be displayed.

```
CARD-TEST  
test OK
```

 may remove card

```
CARD-TEST  
Test failed
```

 may remove card

Exit this function

You can leave this function by pressing the **ESC** key or removing the chipCARD.

Sd-card-test

```
SERVICE      select:
< sd-card-test >
```

By pressing the **Enter** key this function will be opened.

```
SD-CARD-TEST
insert SD-card
```

2

This function checks the hidden SD-CARD reader on the left side of the mainboard internally the analyzer.

After placing a not write protected the card in the correct way into the card reader the status will be displayed.

```
CARD-TEST
test OK
```

 may remove card

```
CARD-TEST
Test failed
```

 may remove card

In case of a write protected card the analyzer will display:

```
CARD-TEST
Write protected
```

Exit this function

You can leave this function by pressing the **ESC** key or removing the SD-CARD.

Calib. Temperature

```
SERVICE      select:
<calib. temperature>
```

By pressing the **Enter** key this function will be opened.

```
CALI:  intern: 37.4
ntc:27492 extn: 37.4
```

Here you can calibrate the thermal block. Several measuring devices have to be prepared.

1. Measuring devices

- 2-channel thermometer
- Testo 901
- Dipping- / Piercing sensor TE Typ K
- Probe tube 110x4mm
- Adaptor for TE pair Type K

2. Preparation

- Fill 400 µl **Aqua-Bidest** into the lower cuvette well on the right side of the incubation block so that 2/3 is filled.
- Put the dipping sensor into this well.

Calibration

```
CALI:  intern: 37.4
ntc:519 extern: 37.4
```

1. Wait until the temperature has stabilized to 37.4 on the *internal* display.
2. Read the actual temperature of the thermal block from the digital multimeter and enter via the keyboard numbers.
It will be displayed in the *external* field automatically.
The decimal point can be entered by pressing the „>“ key.
Press **Enter** to confirm. The calibration value will be set in the analyzer automatically and will be displayed in the *internal* line.
3. Wait again until the temperature has stabilized to 37,4 in the *internal* line.

The displayed *ntc* value will show you whether the instrument heats up or cools off in order to reach 37,4°C.
Rising values mean 'cool off', falling values mean 'heat'.
4. If the value in the *internal* line has stabilized to 37,4 it must be compared to the digital multimeter. If the values deviate repeat this procedure from item 2 above. If both values are identical finish calibration and save by pressing the **ESC** key.

For a detailed description please refer to the service SOPs document.

Init sd-card

```
SERVICE      select:
<  init sd-card  >
```

By pressing the **Enter** key this function will be opened.

```
Init card?
<          no          >  <          yes          >
```

This function will clear an insterted SD-Card.

Note:

All data on the card will be deleted.

Exit this function

You can leave this function by selecting **no** pressing the **Enter** key.

param. im/export

```
SERVICE    select:  
< param. im/export >
```

By pressing the **Enter** key this function will open a selection.

```
parameter  
<Export -> SD-Card >
```

```
parameter  
<Import <- SD-Card >
```

This function will save or load a defined parameter setup from a SD-Card.

For a detailed description please refer to the service SOPs document.

Exit this function

You can leave this function by pressing the **ESC** key or removing the SD-CARD.

Default parameters

```
SERVICE    select:
<default parameters>
```

By pressing the **Enter** key this selection will be opened.

```
Default parameters?
<          no          >  <      yes      >
```

This function will load a factory parameter setup into the analyzer.

Note:

All setup-data on the analyzer will be reset. Further steps may be required.
For a detailed description please refer to the service SOPs document.

Exit this function

You can leave this function by selecting **no** pressing the **Enter** key.

Quit the service mode

You can always exit the service mode when you are in the service functions menu.

e.g.

```
SERVICE      select:
<    optic-test    >
```

By pressing the appropriate key you will select

Esc	back to the measuring menu
ENTER	confirm the selected item

After having pressed the **Esc** key the following message will appear:

```
Checking parameters!
Please wait ...
```

```
Parameters are
unchanged
```

```
***  SELFTEST  ***
ROM:OK  RAM:--
```

after that you will be in the operators mode.

UTILITIES menu What for?

The user mode in the CD2001 / CD4001 has several functions which can be accessed by the user as well as the service technician. This is the **utilities menu**.

Here the instrument can be adapted to the individual needs and the instrument parameters can be printed.

With a security code the utilities menu can be protected against unauthorized access.

Each operating software has routine standards installed on the analyzer. Depending on the installed software version the parameters of the analyzer can be set.

See also Operators Manual.

The CD 2001 / CD 4001 can be set to different language modules. At this time an English and German module are integrated in the software. So the UTILITIES functions can look different.

The following descriptions will only follow in English language setup.

2

Functions

The UTILITIES menu has several functions.

Settings

Einstellungen

English	Deutsch
1. Printer	Drucker
- off	- Aus
- on	- Ein
- auto	- Auto
- Parameter-Protocol	- Parameter-Protokoll
2. Port A	Port A
- off	- Aus
- LaMeVi	- LaMeVi
- Data-PC	- Data-PC
- Start-Pipette	- Startpipette
- ext. printer	- ext. Drucker
3. Port B	Port B
- off	- Aus
- LaMeVi	- LaMeVi
- Data-PC	- Data-PC
- Start-Pipette	- Startpipette
- Ext. printer	- ext. Drucker
4. Beeper	Signalgeber
- on	- Ein
- off	- Aus
- click	- Klick
5. Language	Sprache
- English	- Deutsch
- German	- Englisch
6. date / time	Datum/Zeit
7. Reagent-Stirrer	Reagenzrührer
- on	- Ein
- off	- Aus
7. PIN Code	PIN Code
- on (= number)	- Ein (= Nummer)
- off (= 0)	- Aus (= 0)

2

Tests

Funktionsprüfungen

English	Deutsch
8. cuvette-test	Kuevettentest

Output

Ausgaben

English	Deutsch
1. Printer	Drucker
- Parameter-protocol	- Parameterprotokoll
- Global	- Allgemein
- Actual-Method	- Akt. Methode
- All Parameter	- Alle Parameter

2

The UTILITIES Menu

The utilities menu is part of the installed instrument software.

1. Switch on the instrument

```
reading Parameters
from internal
```

```
CoaDATA 4001
LABor GmbH
```

2

```
CoaDATA 4001 V2.00.00 (c) Feb 14 2008
LABiTec GmbH
```

```
remove all cuvettes
then press any key
```

Make sure that no cuvettes are in the measuring channels then press any key.

```
auto blanking
keep channels clear
```

After automatic check of the „empty“ measuring channels the instrument is ready.

```
STANDBY      37.4 deg
<1          PT          >
```

Press the „left“ arrow key:

```
STANDBY      37.4 deg
< UTILITIES  >
```

Press the **Mode** key

A secret number can protect the utilities menu against unauthorized access. If this is not the case the following question will not be displayed:

```
secret no.:
.....
```

Enter the 5-digit secret number.

```
UTILITIES select:
< printer      >
```

Printer

```
UTILITIES      select:
< printer      >
```

By pressing the **Enter**-key the menu will open.
With the **Arrow** keys you can select the different items.

2

1. OFF

```
PRINTER
< OFF      >
```

The internal printer is switched off.

2. ON

```
PRINTER
< ON      >
```

The manual result output of the internal printer is switched on.

3. AUTO

```
PRINTER
< AUTO      >
```

The automatic result output of the printer is switched on.

4. parameter protocol

```
PRINTER
<parameter-protocol>
```

The parameter record contains several output functions.

Here you can print different detailed lists of the analyzer setup.

Make sure that enough paper is in the printer and that it has been inserted correctly.

Activation / Execution

By pressing the **Enter**-key the selection will be activated or executed.

Printer**contd.****4. parameter protocol**

```
PRINTER
<parameter-protocol>
```

By pressing the **Enter** key this function will open a selection.
Use the **arrow** keys to change the settings.

4.1 Global parameter

```
Parameter-Protocol
<      Global      >
```

By pressing the **Enter** key this function will start the selected printout.

4.2 Actual Method parameter

```
Parameter-Protocol
<      Global      >
```

4.3 All parameter

```
Parameter-Protocol
<      Global      >
```

For a detailed description please refer to the service SOPs document.

Port A

```
UTILITIES      select:
<      Port A      >
```

By pressing the **Enter** key this function will open a selection.
Use the **arrow** keys to change the settings.

2

1. OFF

```
Port A
<      OFF      >
```

The output via the serial port is switched off.

2. LaMeVi

```
Port A
<      LaMeVi    >
```

The output via the serial **Port A** is switched on.
Note that a PC with the LABiTec LaMeVi program must have been connected.

If the output to the computer has been switched on the printer will be switched OFF.

3. Data-PC

```
Port A
<      Data-PC    >
```

The output via the serial **Port A** is switched on.
Note that a PC with a data receiving software must have been connected.

Note:

Selection of LaMeVi or Data-PC will have influence to the guided displaying while measurement.
For a detailed description please refer to the service SOPs document.

Port A**contd.****4. Start-Pipette**

```
Port A
< Start-Pipette >
```

The start signal detection via the serial **Port A** is enabled.

Note:

If there is no Start-Pipette connected when Port A = Start pipette no measurement start will be detected.

2**5. ext. Printer**

```
Port A
< ext. printer >
```

The output via the serial **Port A** is switched on.
Note that an external Printer must have been connected.

If the output to the external printer has been selected the internal printer will be switched OFF.

Activation / Execution

By pressing the **Enter**-key the selection will be activated or executed.

Port B

```
UTILITIES      select:
<      Port B      >
```

By pressing the **Enter** key this function will open a selection.
Use the **arrow** keys to change the settings.

2

1. OFF

```
Port B
<      OFF      >
```

The output via the serial port is switched off.

2. LaMeVi

```
Port B
<      LaMeVi    >
```

The output via the serial **Port B** is switched on.
Note that a PC with the LABiTec LaMeVi program must have been connected.

If the output to the computer has been switched on the printer will be switched OFF.

3. Data-PC

```
Port B
<      Data-PC    >
```

The output via the serial **Port B** is switched on.
Note that a PC with a data receiving software must have been connected.

Note:

Selection of LaMeVi or Data-PC will have influence to the guided displaying while measurement.
For a detailed description please refer to the service SOPs document.

Port B**contd.****4. Start-Pipette**

Port B < Start-Pipette >

The start signal detection via the serial **Port B** is enabled.

Note:

If there is no Start-Pipette connected when Port B = Start pipette no measurement start will be detected.

2**5. ext. Printer**

Port B < ext. printer >

The output via the serial **Port B** is switched on.
Note that an external Printer must have been connected.

If the output to the external printer has been selected the internal printer will be switched OFF.

Activation / Execution

By pressing the **Enter**-key the selection will be activated or executed.

Beeper

```
UTILITIES      select:
<      Beeper      >
```

By pressing the **Enter** key this function will open a selection.
Use the **arrow** keys to change the settings.

2

1. ON

```
BEEPER
<      ON      >
```

The beeper is switched on.

2. OFF

```
BEEPER
<      OFF      >
```

The beeper is switched off.

3. click

```
BEEPER
<      CLICK      >
```

Only key strokes will be confirmed from the beeper.

Activation / Execution

By pressing the **Enter**-key the selection will be activated or executed.

Language

UTILITIES	select:
<	Language >

By pressing the **Enter** key this function will open a selection.
Use the **arrow** keys to change the settings.

1. English

Language
< English >

All user messages will be displayed / printed in English language.

1. German

Language
< German >

All user messages will be displayed / printed in German language.

Activation / Execution

By pressing the **Enter**-key the selection will be activated or executed.

date / time

```
UTILITIES      select:
<      date/time      >
```

By pressing the **Enter**-key this item will open.

```
CLOCK
05.04.01  14:10:30
```

2

Here the internal clock and date can be set.

1. Set the date

The date should be entered in the following form:

DD <Enter> MM <Enter> YY <Enter>

2. Set the time

The time should be entered in the following form:

HH <Enter> MM <Enter> SS <Enter>

By pressing the **Enter**-key the settings will be saved.

Leave this function

Use the **ESC**-key to cancel.

Reagent Stirrer

```
UTILITIES      select:  
< Reagent-Stirrer >
```

By pressing the **Enter** key this function will open a selection.
Use the **arrow** keys to change the settings.

1. On

```
Reagent-Stirrer  
<      On      >
```

The reagent-stirrer in the left reagent bottle position will be activated.

2. Off

```
Reagent-Stirrer  
<      Off     >
```

The reagent-stirrer in the left reagent bottle position will be deactivated.

Note:

The reagent stirrer will not spin while the analyzer is in Standby Mode.

Activation / Execution

By pressing the **Enter**-key the selection will be activated or executed.

PIN Code

```
UTILITIES      select:
<      PIN Code      >
```

By pressing the **Enter**-key this item will be opened.

```
enter new PIN Code
>11111< (00000=none)
```

2

Here you can change the secret number for the access to the Utilities menu.

Use the number keys.

Any number between 00001 and 59999 is allowed.

Turn off question

The question for the secret number before opening the utilities menu can be deactivated by setting **00000**.

Cancel this function

If you have used the **ESC**-key the secret number remains unchanged.

Note:

If the printer is set to „AUTO“ or „ON“ the setting of the secret number will be printed for reference. Make sure that enough paper is in the printer.

Activation / Execution

By pressing the **Enter**-key the selection will be activated or executed.

cuvette test

```

UTILITIES      select:
<  cuvette-test  >
  
```

By pressing the **Enter**-key this item will be opened.

```

CUVETTE TEST
cuv  ---  cuv  ---
  
```

Here you can check the cuvette detection.

In the second line you can see whether a cuvette is in the measuring channel or if the channel is free.

```

cuv      a cuvette was detected in the measuring channel
---      the channel is free
  
```

If problems occur with the cuvette detection during a measuring run or during this test menu remove all cuvettes from the measuring channels and switch the instrument off and on again. Then recheck this function.

Important:

Make sure that no cuvettes are in the measuring channels while the instrument is switched **on**.

Leave this function

By pressing the **Enter**-key or the **ESC**-key this item will be left.

Quit UTILITIES menu

There are two ways to leave the Utilities menu:

1. No settings were modified.
No further changes were made.

You can exit the UTILITIES menu when you are in the UTILITIES select

2

e.g.

```
UTILITIES  select:
<  optic-test  >
```

By pressing the appropriate key you will select

Mode	back to the measuring menu
ENTER	confirm the selected item

After having pressed the **Mode** key the following message will appear:

```
Checking parameters!
Please wait ...
```

```
Parameters are
unchanged
```

after that you will be back in the analytical measuring mode.

Quit UTILITIES menu**contd.**

2. In one of the functions of the Utilities menu you have changed the settings and the following will be displayed

```
select:  ESC= work
ENTER= more param.
```

Press either of the following keys to select

ESC	back to the measuring menu
ENTER	further function in the Utilities menu

If the **ESC**-key has been pressed the following will appear:

```
Checking parameters!
Please wait ...
```

```
Save new parameters?
Enter= yes, ESC= no
```

```
Processing -
Please wait ...
```

after that you will be back in the analytical measuring mode.

Security code forgotten, what now?

If the user has forgotten the security code the service technician can re-install or change this code.

Switch the instrument into Standby mode:

```
STANDBY      37.4 deg
<1          PT          >
```

2

By pressing the „left“ arrow key change to:

```
STANDBY      37.4 deg
<          UTILITIES  >
```

Press the **Mode**-key

The Utilities menu is blocked by the secret number. If it is not known you can use the superior security code which cannot be changed.

```
secret no.:
        .....
```

Enter the numbers **3 5 0 0 1** and the menu will open:

```
UTILITIES    select:
<      printer      >
```

Use the arrow keys to select:

```
UTILITIES    select:
<  secret number  >
```

Change the security code as described in

UTILITIES

secret number

The numbers **1 1 1 1 1** have been preset by the manufacturer.

Important:

The „Superior Security Code“ must be kept confidential and should not be made accessible to third parties.

Demounting / Mounting the instrument

General information

Mounting

Mounting CoaDATA 2001
Mounting CoaDATA 4001
Mounting the housing bottom of CoaDATA 2001
Mounting the housing bottom of CoaDATA 4001
Mounting the thermal block of CoaDATA 2001
Mounting the thermal block of CoaDATA 4001
Mounting the main board of CoaDATA 2001
Mounting the main board of CoaDATA 4001
Mounting the housing top
How to mount the membrane keyboard
How to assemble the instrument

General Information

Remove all cables to the analyzer before opening the instrument

Remove the paper roll from the printer unit.

Remove all vials from the thermal block.

Make sure that no cuvettes are in the measuring channels.

Make sure that no chip card is in the card reader.

Make sure to work on a clean and soft surface.

Collect all screws, clamps and clips in an appropriate container.

Make sure that no parts will disappear.

Immediately remove all parts which fell into the analyzer by accident.

Leave no loose parts in the analyzer.

During and upon completion of your work make sure that no loose parts are in the analyzer.

Make sure that no demounted parts will be left over after mounting the instrument, except exchanged parts.

Make sure that exchanged modules have the proper program version. See the information to the software version in chapter „Software status“.

Mounting CoaDATA 2001

3

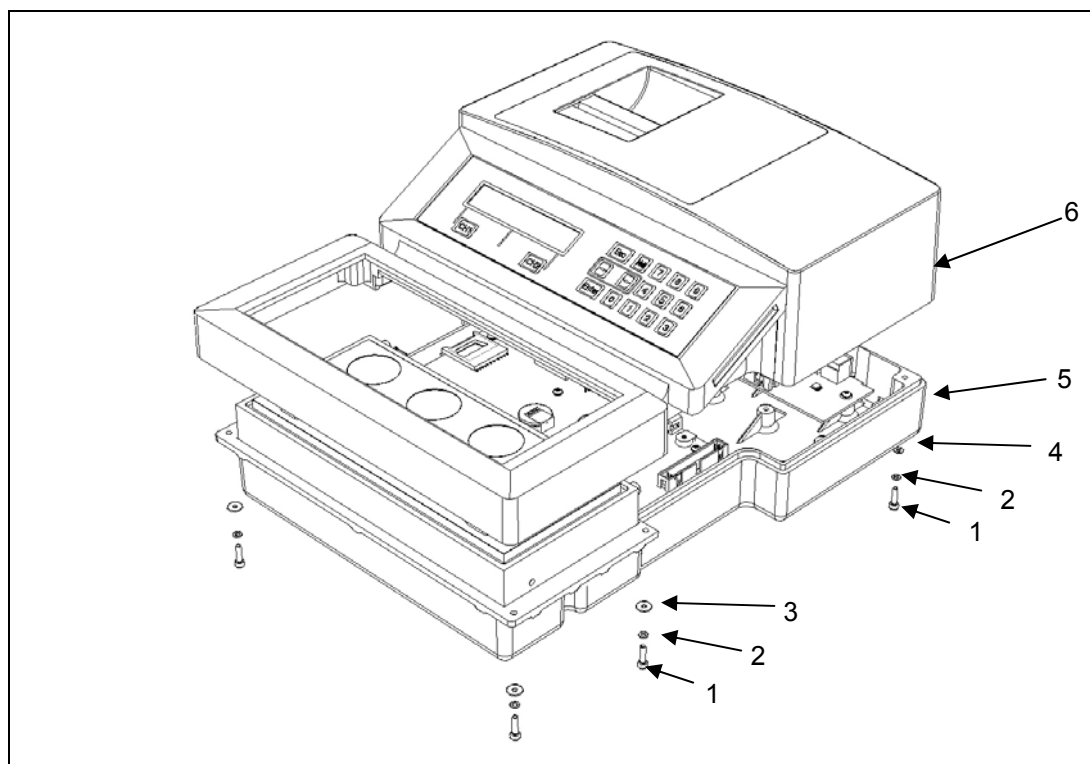


Figure 1: Mounting CoaDATA 2001

Pos.	Description	Type	Quantity	Order No.
1	Screw M3 x 12 DIN 912		6	
2	Washer S3		6	
3	Spacer 3,2 DIN 125		2	
4	Spacer 3,2 DIN 9021		4	
5	Housing bottom (mounted)	2-channel	1	---
6	Housing top (mounted)	2 channel	1	---

Hints when opening the instrument

- Make sure that it is not connected to the current. Remove the power cable!
- Carefully lift the housing top. Keep it to the right side of the bottom as there are cable connections which might tear.
- Remove the security clip and the plug to the card reading board at the main board.
- Remove the plug at the main board which leads to the printer.

Mounting CoaDATA 4001

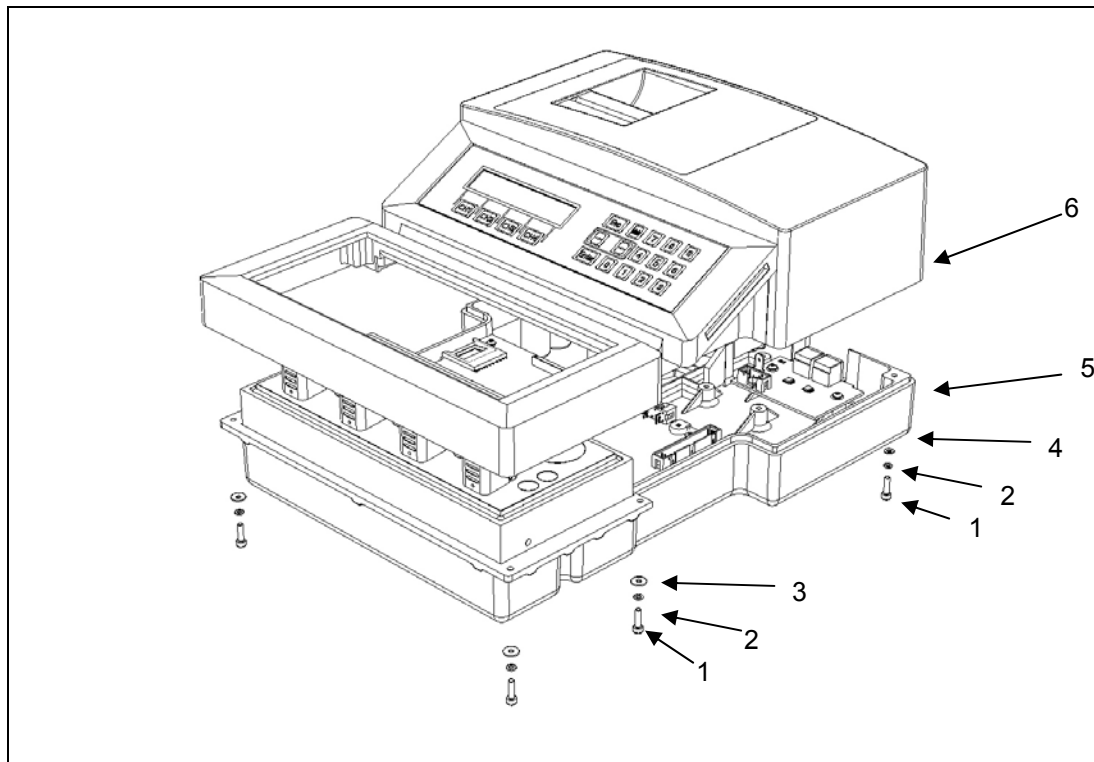


Figure 2: Mounting CoaDATA 4001

Pos.	Description	Type	Quantity	Order No.
1	Screw M3 x 12 DIN 912		6	
2	Washer S3		6	
3	Spacer 3,2 DIN 125		2	
4	Spacer 3,2 DIN 9021		4	
5	Housing bottom (mounted)	4-channel	1	---
6	Housing top (mounted)	4-channel	1	---

Hints when opening the instrument

- Make sure that it is not connected to the current. Remove the power cable!
- Carefully lift the housing top. Keep it to the right side of the bottom as there are cable connections which might tear.
- Remove the security clip and the plug to the card reading board at the main board.
- Remove the plug at the main board which leads to the printer.

Mounting the housing bottom of CoaDATA 2001

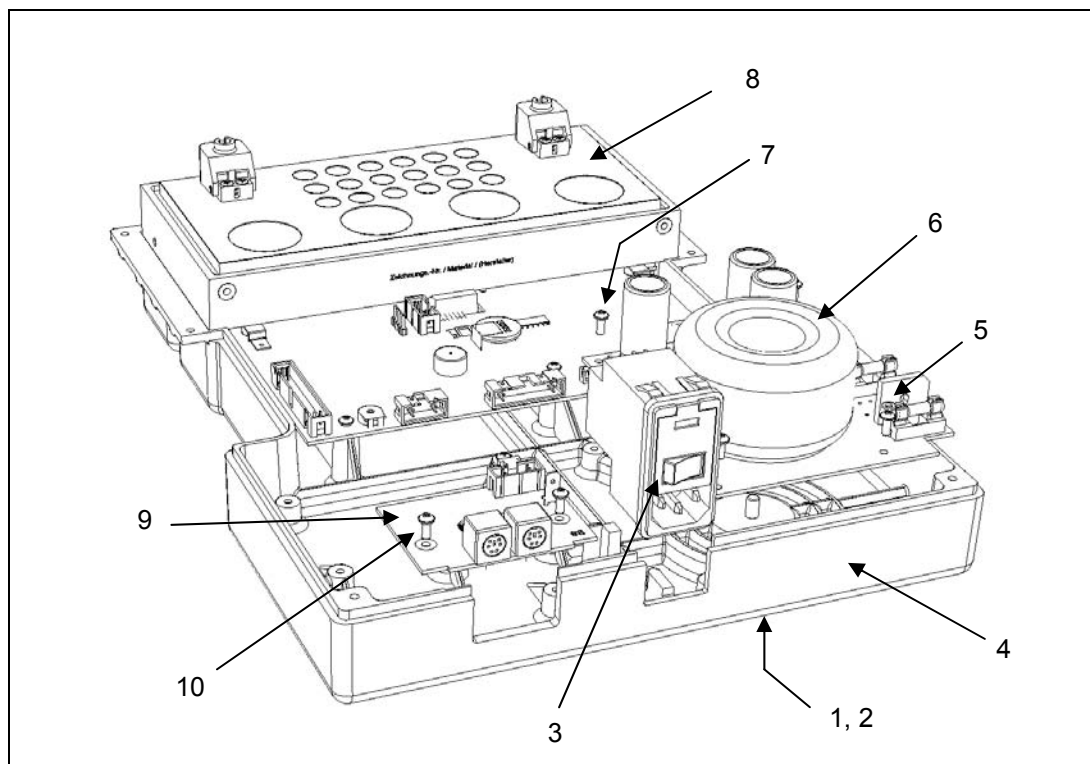


Figure 3: Mounting the housing bottom of CoaDATA 2001

Pos.	Description	Type	Quantity	Order No.
1	Screw M5 x 16 DIN 912		1	
2	Washer S5		1	
3	Power supply filter		1	---
4	Housing bottom		4	see Chap. 4
5	EJOT-Screw WN 1441 KB 30x8		4	
6	Power supply unit cpl.		1	102-11-039-00
7	EJOT-Screw WN 1441 KB 30x8		3	
8	Thermal block with Main board	2-channel	1	---
9	RS232 board V2		1	
10	EJOT-Screw WN 1441 KB 30x8		2	

Mounting the housing bottom of CoaDATA 4001

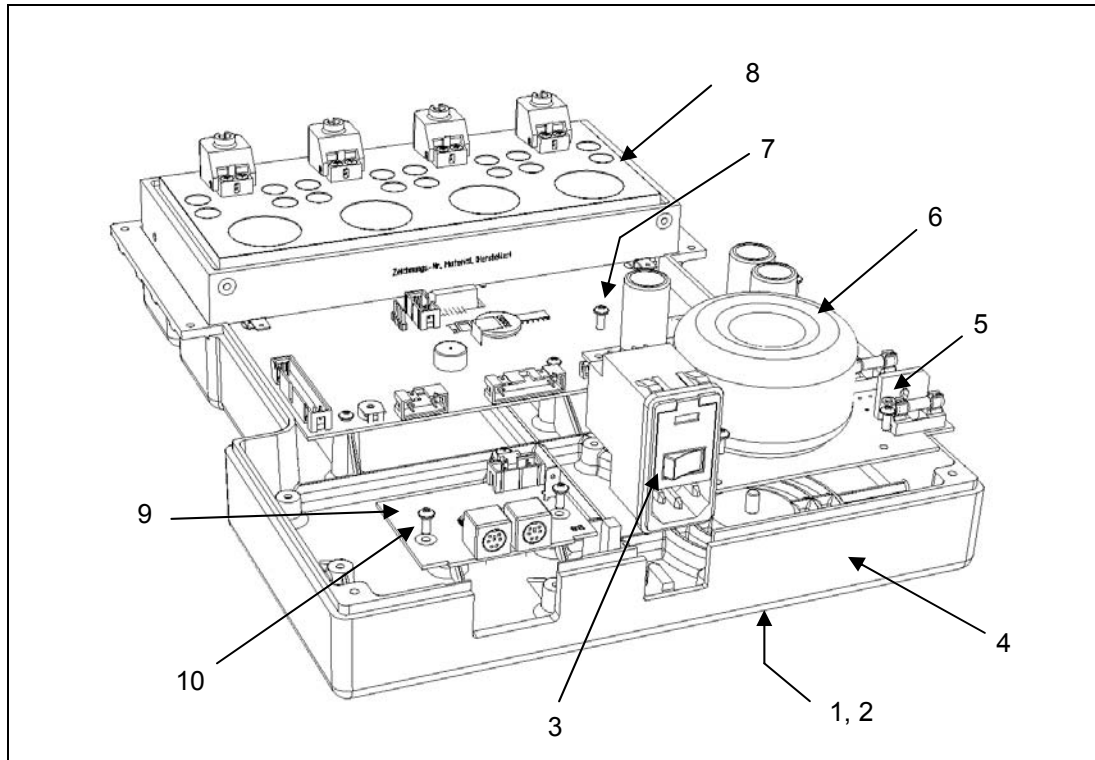


Figure 4: Mounting the housing bottom of CoaDATA 2001

Pos.	Description	Type	Quantity	Order No.
1	Screw M5 x 16 DIN 912		1	
2	Washer S5		1	
3	Power supply filter		1	---
4	Housing bottom		6	see Chap. 4
5	EJOT-Screw WN 1441 KB 30x8		4	
6	Power supply unit cpl.		1	102-11-039-00
7	EJOT-Screw WN 1441 KB 30x8		3	
8	Thermal block with Main board	4-channel	1	---
9	RS232 board V2		1	
10	EJOT-Screw WN 1441 KB 30x8		2	

Mounting the Thermal block of CoaDATA 2001

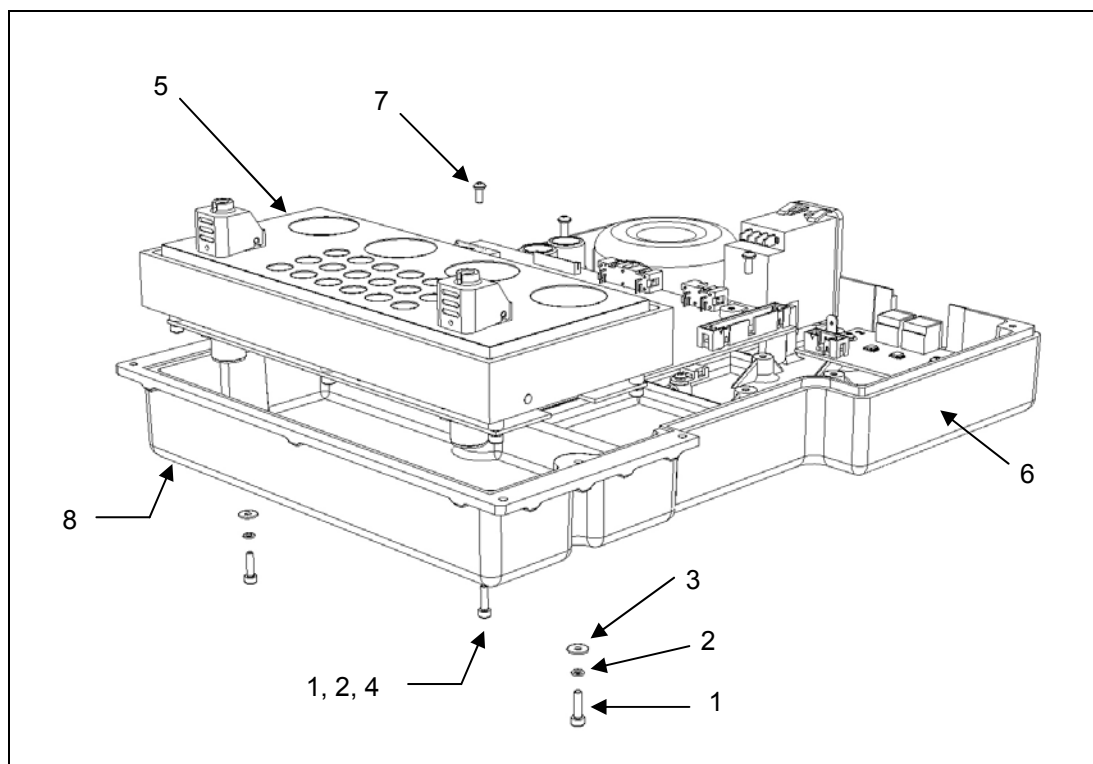


Figure 5: Mounting the thermal block of CoaDATA 2001

Pos.	Description	Type	Quantity	Order no.
1	Screw M3 x 12 DIN 912		3	
2	Washer S3		3	
3	Spacer 3,2 DIN 125		2	
4	Spacer 3,2 DIN 9021		1	
5	Thermal block with main board	2-channel	1	---
6	Housing bottom		1	see chapt 4
7	EJOT-Screw WN 1441 KB 30x8		3	
8	Rubber feet, black		4	

Attention: The thermal block must be placed on a soft, non-scratching surface. Never put it on a printed board as the sensitive motors could be damaged.

Mounting the Thermal block of CoaDATA 4001

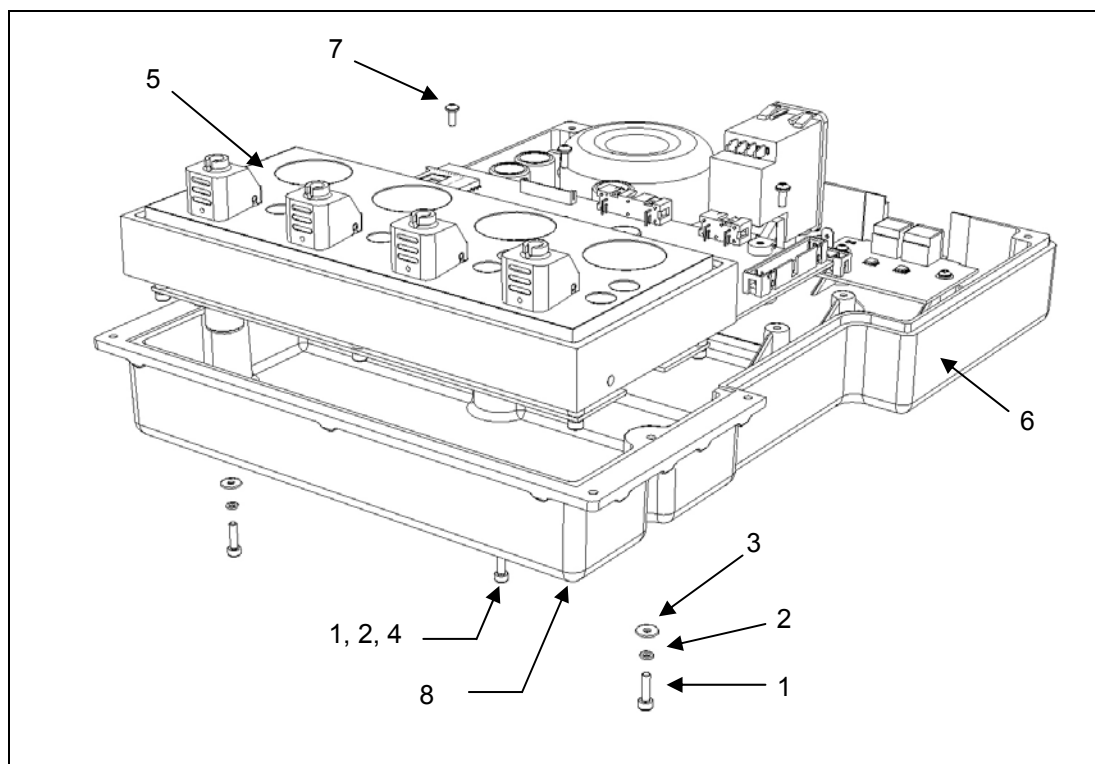


Figure 6: Mounting the thermal block of CoaDATA 4001

Pos.	Description	Type	Quantity	Order no.
1	Screw M3 x 12 DIN 912		3	
2	Washer S3		3	
3	Spacer 3,2 DIN 125		2	
4	Spacer 3,2 DIN 9021		1	
5	Thermal block with main board	4-channel	1	---
6	Housing bottom		1	see chapt 4
7	EJOT-Screw WN 1441 KB 30x8		3	
8	Rubber feet, black		4	

Attention: The thermal block must be placed on a soft, non-scratching surface. Never put it on a printed board as the sensitive motors could be damaged.

Mounting the main board of CoaDATA 2001

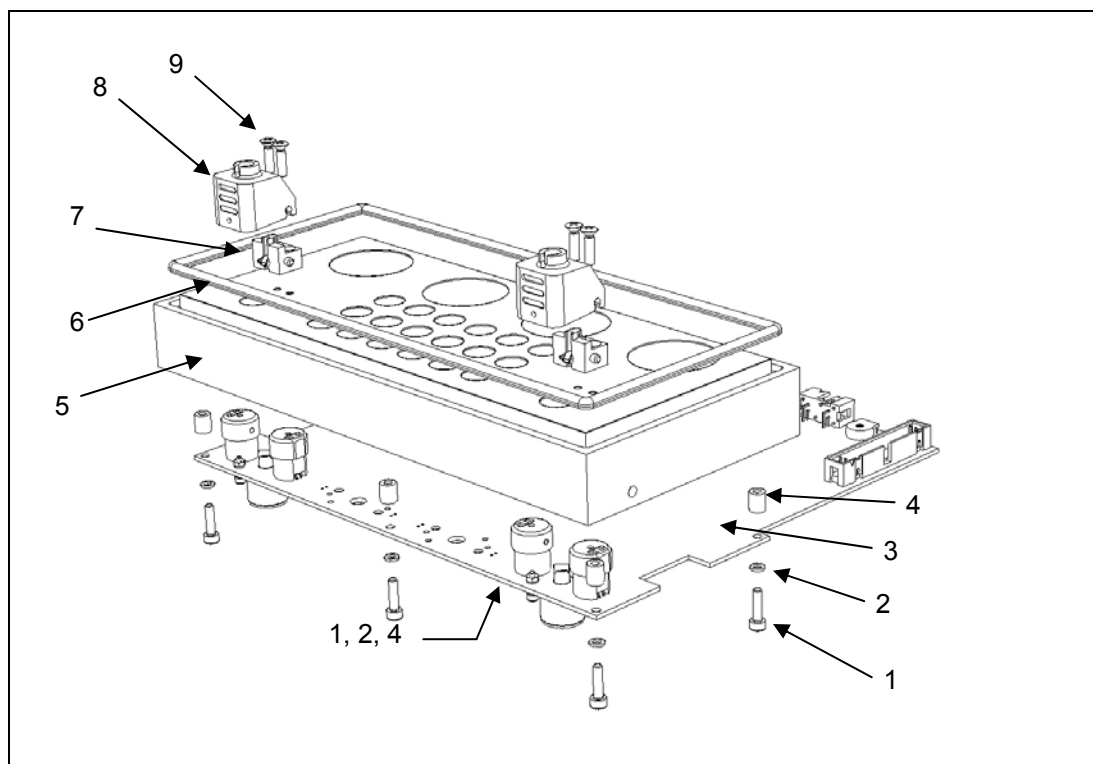


Figure 7: Mounting the main board of CoaDATA 2001

Pos.	Description	Type	Quantity	Order No.
1	Screw M3 x 12 DIN 912		6	
2	Washer S3		6	
3	Main board	2 channel	1	see chapt. 4
4	Distance rods 7mm		6	
5	Thermal block cpl.	2 channel	1	see chapt. 4
6	Rubber seal		1	
7	Holder for light protection cap		2	see chapt. 4
8	Light protection cap		2	see chapt. 4
9	Screw M3 x 12 DIN 966		4	see chapt. 4

Attention: Never put the board on the motors as they will be damaged easily.

Mounting the main board of CoaDATA 4001

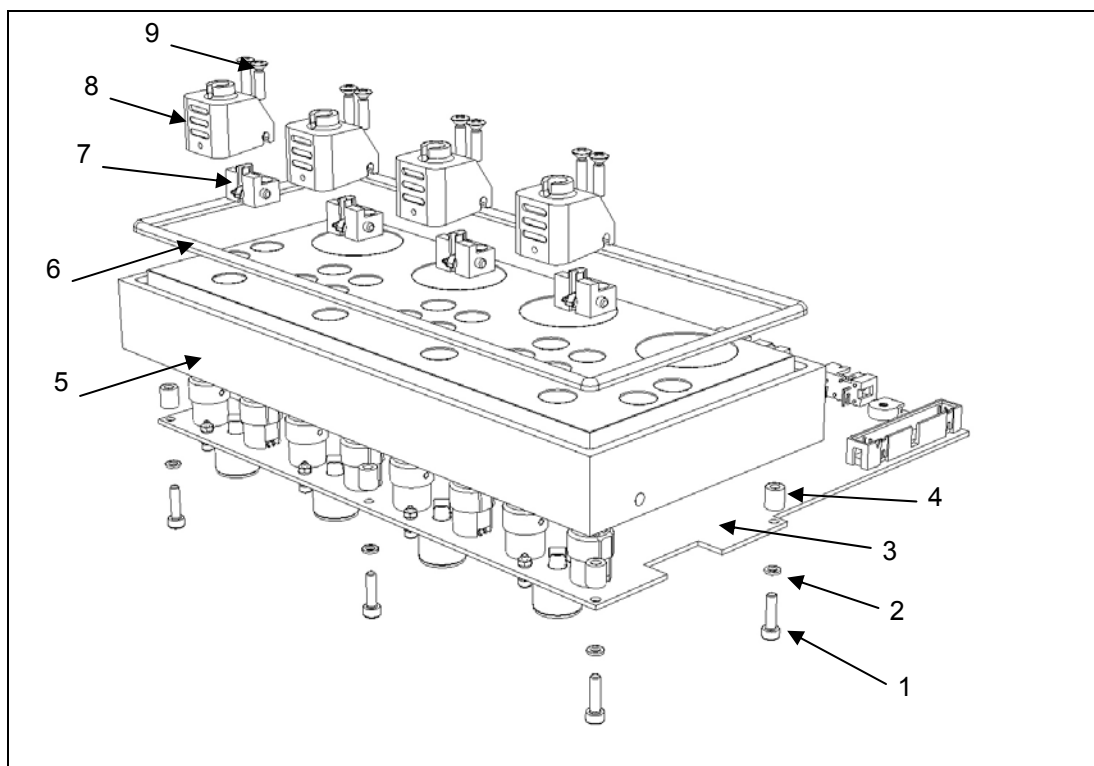


Figure 8: Mounting the main board of CoaDATA 2001
5

Pos.	Description	Type	Quantity	Order No.
1	Screw M3 x 12 DIN 912		6	
2	Washer S3		6	
3	Mainboard	4 channel	1	see chapt. 4
4	Distance rolls 7mm		6	
5	Thermal block cpl.	4 channel	1	see chapt. 4
6	Rubber seal		1	
7	Holder for light protection cap		2	see chapt. 4
8	Light protection cap		2	
9	Screw M3 x 12 DIN 966		4	

Attention: Never put the board on the motors as they will be damaged easily.

Mounting the housing top

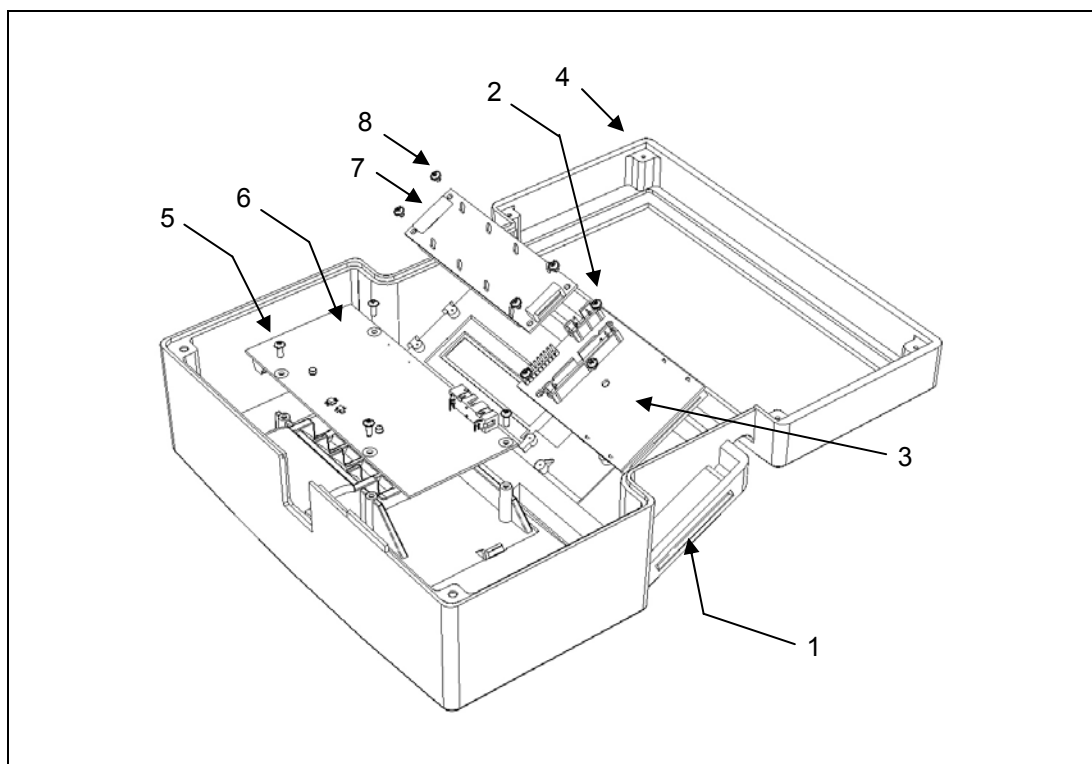


Figure 9: Mounting the housing top

Pos.	Description	Type	Quantity	Order No.
1	Membrane keyboard	2-channel	1	see Chap. 4
1	Membrane keyboard	4-channel	1	see Chap. 4
2	EJOT PT Screw WN 1441 KB 25 x6		3	
3	Chipcard reader V2		1	
4	Housing top	2 / 4-channel	1	see chapt. 4
5	EJOT PT Screw WN 1441 KB 30 x6		4	
6	Printer board V2		1	
7	LCD Display cpl.		1	102-12-019-00
8	EJOT PT Screw WN 1441 KB 25 x6		4	

Attention: The membrane keyboard has been fixed to the housing top with a self-adhesive tape. When removing the keyboard be careful so that the varnish coating of the housing will not be damaged.

How to mount the membrane keyboard

- When mounting the membrane keyboard it is necessary to remove the display first. Follow the instructions in „Demounting the display“.
- Degrease the adhesion surface area.

Attention: Do not remove the protective film from the adhesive yet.

- For trial put the membrane keyboard into the hollow of the housing top.
- Adjust the membrane keyboard in such a way that it is well-centered. Remember this position!
- Now remove the protective film only in the area of the display window. Then remove the protective film from the adhesive. Make sure that it has been removed completely.
- Now take the membrane keyboard into one hand and, with the other hand, put the connection cable through the display opening in the housing.
- Position the foil into the hollow with both hands.
- Carefully affix the foil from the vertical center to the housing.
- Press it tightly from the center to the outer edges.

3

Note:	Each membrane keyboard can be affixed just once. Detaching it might lead to functional problems.
-------	--

Hints how to assemble the instrument

Before finally assembling the instrument pay attention to the following:

- The fuses for the power supply unit have the proper value.
- All screws have been connected tightly.
- All cables have been connected properly in the housing bottom.
- All cables have been connected properly in the housing top.
- The earth conductors are in proper condition.
- No loose parts are in the analyzer.
- Plug the cables to the card reading board onto the respective pins on the main board.
- Put the clip on this plug so it won't loosen.
- Plug the cable to the printer board onto the respective pins on the main board.
- Put the clip on this plug so it won't loosen.
- Check the correct position of the voltage selector and the fuses before switching on the analyzer.

Hardware components

Manuals

Printed Circuit Boards

CoaDATA 4001 Main board
CoaDATA 2001 Main board
CoaDATA 2001/2001 Power supply unit V1
CoaDATA 2001/2001 Power supply unit V2
CoaDATA 2001/4001 LCD-Display cpl.
CoaDATA 2001/4001 Chip card reader V2
CoaDATA 2001/4001 Printing module V1
CoaDATA 2001/4001 Printer board V2
CoaDATA 2001/4001 RS232 Board V1
CoaDATA 2001/4001 RS232 Board V2

Keyboard Overlays

CoaDATA 4001 Membrane Keyboard, black
CoaDATA 2001 Membrane Keyboard, black
CoaDATA 4001 Membrane Keyboard, blue
CoaDATA 2001 Membrane Keyboard, blue

Housing

CoaDATA 2001/4001 Top Housing, white
CoaDATA 2001/4001 Bottom Housing, red
CoaDATA 2001/4001 Bottom Housing, blue
CoaDATA 2001/4001 rubber feet, black
CoaDATA 2001/4001 rating plate

Cables

CoaDATA 2001/4001 Datacable for Cardreader
CoaDATA 2001/4001 Datacable for Printer V1
CoaDATA 2001/4001 Datacable for Printer V2
CoaDATA 2001/4001 Cable for Printer Power V1
CoaDATA 2001/4001 Cable for 5V Power Printer V1
CoaDATA 2001/4001 Cable for Printer V1
CoaDATA 2001/4001 Power Cable Mainboard V1
CoaDATA 2001/4001 Power Cable Mainboard V2
CoaDATA 2001/4001 Internal RS232 cable
CoaDATA 2001/4001 Power supply cord, Germany
CoaDATA 2001/4001 Power supply cord, US
CoaDATA 2001/4001 Data cable 9 pin SUB-D / 9 pin SUB-D
CoaDATA 2001/4001 Data cable 9 pin SUB-D / 25 pin SUB-D
CoaDATA 2001/4001 Programming cable 9 pin Dub-D / 9 pin SUB-D
CoaDATA 2001/4001 Data cable 6 pin Mini-DIN / 9 pin SUB-D
CoaDATA 2001/4001 Programming Data cable 6 pin Mini-DIN / 9 pin SUB-D
CoaDATA 2001/4001 Data cable for DPU 414 printer
CoaDATA 2001/4001 RS232 Test plug SUB-D
CoaDATA 2001/4001 RS232 Test plug Mini-DIN

4

Thermal block

CoaDATA 4001 Thermal block
CoaDATA 2001 Thermal block

Small parts

CoaDATA 2001/4001 Mixer- and Stirrermotor V4
CoaDATA 2001/4001 Battery CR2032
CoaDATA 2001/4001 Small Parts Kit V2
CoaDATA 2001/4001 Fuses (spare)
CoaDATA 2001/4001 Dust cover
CoaDATA 2001/4001 Light protection cap, black for Eppendorf Tip
CoaDATA 2001/4001 Light protection cap, black for Labor Tip
CoaDATA 2001/4001 Light protection cap, silver for Eppendorf Tip

Consumable Material

CoaDATA 2001/4001 Printer paper
CoaDATA 2001/4001 Bottle 15ml
CoaDATA 2001/4001 Teflon stirrer
CoaDATA 2001/4001 Disposable micro-cuvette
CoaDATA 2001/4001 Disposable FL-cuvette

ChipCARDS

Manuals

Printed Circuit Boards

CoaDATA 4001 Main board

(104-10-019-00)

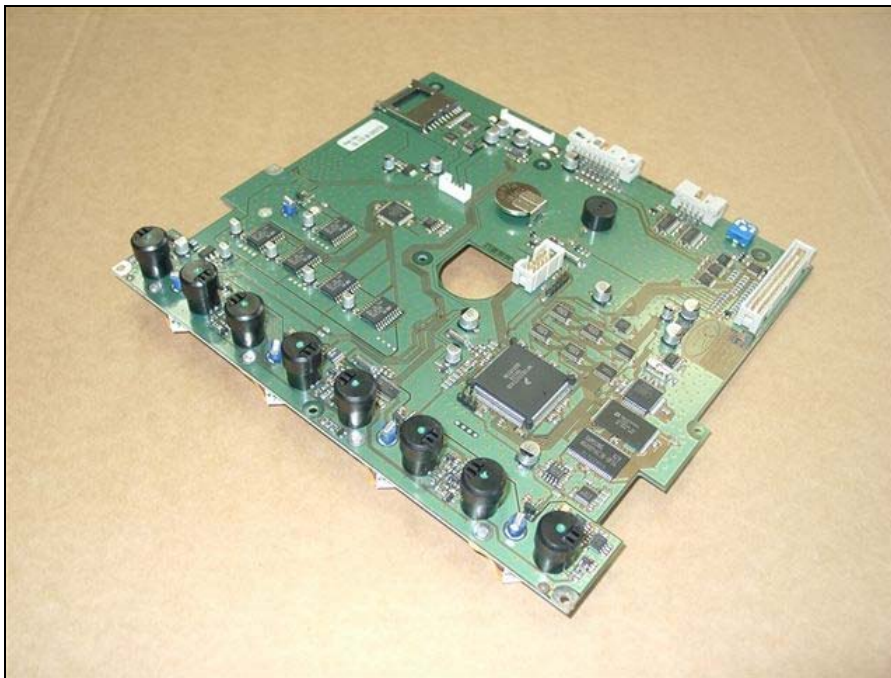


Figure 1: CoaDATA 4001 Main board

4

Hardware functions:

1. Display control
2. Keyboard control
3. Control of measuring channels
 - mixer-motor control
 - light-source and -sensor control
4. Printer control
5. Serial port control
6. Reagent-stirrer-motor control

Software functions:

1. Control of the analytical measurement run
2. Method selection
3. Calculation of results
4. Output of results

CoaDATA 2001 Main board

(102-10-019-00)



Figure 2: CoaDATA 2001 Main board

Hardware functions:

1. Display control
2. Keyboard control
3. Control of measuring channels
 - mixer-motor control
 - light-source and -sensor control
4. Printer control
5. Serial port control
6. Reagent-stirrer-motor control

Software functions:

1. Control of the analytical measurement run
2. Method selection
3. Calculation of results
5. Output of results

CoaData 2001/4001 Power supply unit V1

(80.000.0928)

DISCONTINUED

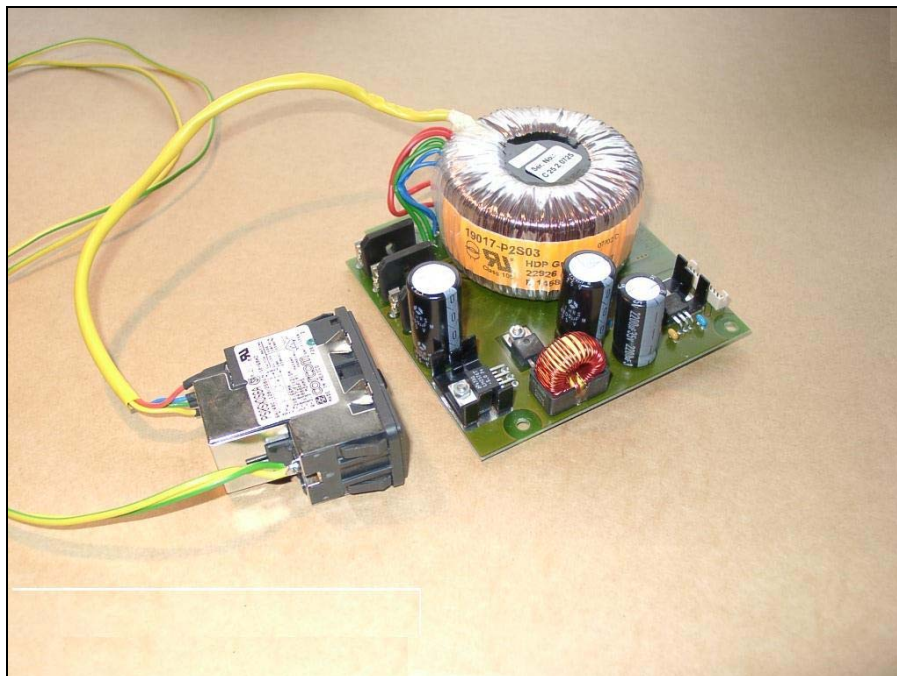


Figure 3: CoaData 2001/4001 Power supply unit

4

Hardware functions:

1. Transforming the mains voltage into small voltage

Technical data:			
Input voltage:	Ue	115/230VAC	60/50Hz
Output voltage:	U1	5VDC	3,15A
	U2	12VDC	0,63A
	U3	25VDC	2A
Secondary fuses:	F1	3,15A time lag	
	F2	0,63A time lag	
	F3	2A time lag	
Primary fuses:		230V	0,8A time lag
		115V	1,6A time lag

Important:

Make sure that the fuses meet the correct country-specific standards.

CoaDATA 2001/4001 Power supply unit V2

102-11-039-00

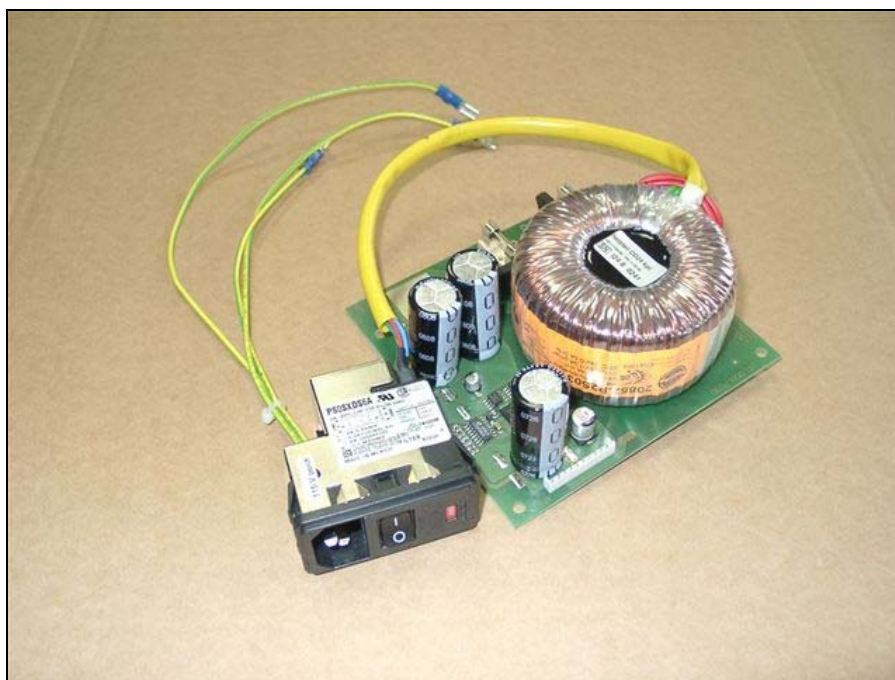


Figure 4: CoaDATA 2001/4001 Power supply unit V2

Hardware functions:

1. Transforming the mains voltage into small voltage

Technical data:			
Input voltage:	Ue	115/230VAC	60/50Hz
Output voltage:	U1	5VDC	3,15A
	U2	Not used	
	U3	25VDC	2A
Secondary fuses:	F1	3,15A time lag	
	F2	Not used	
	F3	2A time lag	
Primary fuses:		230V	0,8A time lag
		115V	1,6A time lag

Important:

Make sure that the fuses meet the correct country-specific standards.

CoaDATA 2001/4001 LCD-Display cpl.**102-12-019-00**

Figure 5: CoaDATA 2001/4001 LCD-Display

Hardware functions:

1. Display for communication with the analyzer

CoaDATA 2001/4001 ChipCARD reader V2

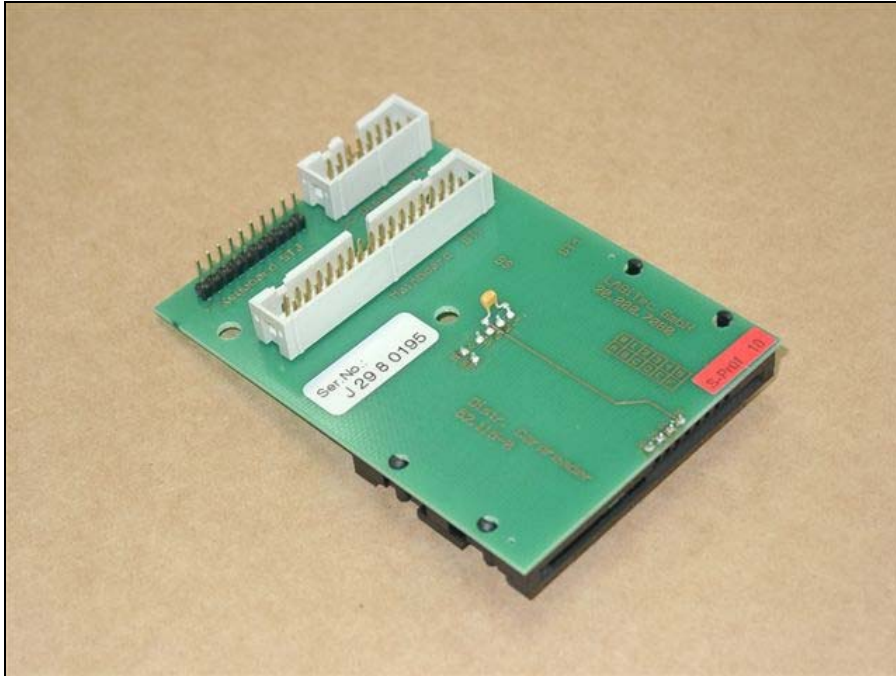


Figure 6: CoaDATA 2001/4001 ChipCARD reader V2

Hardware functions:

1. Signal break up
 - Keyboard control
 - Display control
2. Bonding unit for the chip card

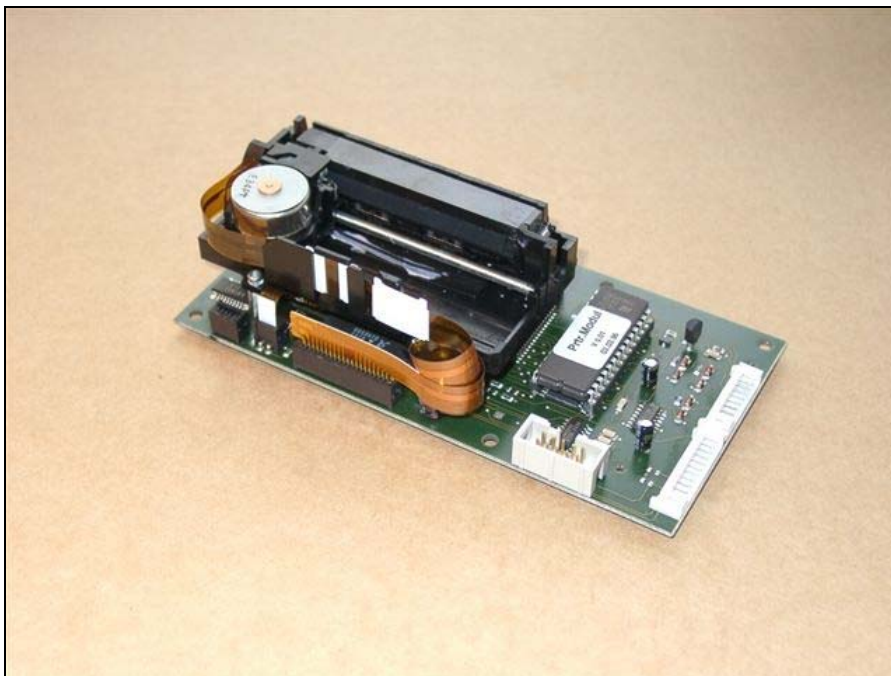
CoaDATA 2001/4001 Printing module V1**80.000.0907****DISCONTINUED**

Figure 7: CoaDATA 2001/4001 Printing module V1

4

Hardware functions:

1. Signal processing
 - Chip card reader
2. Printer control

CoaDATA 2001/4001 Printer board V2

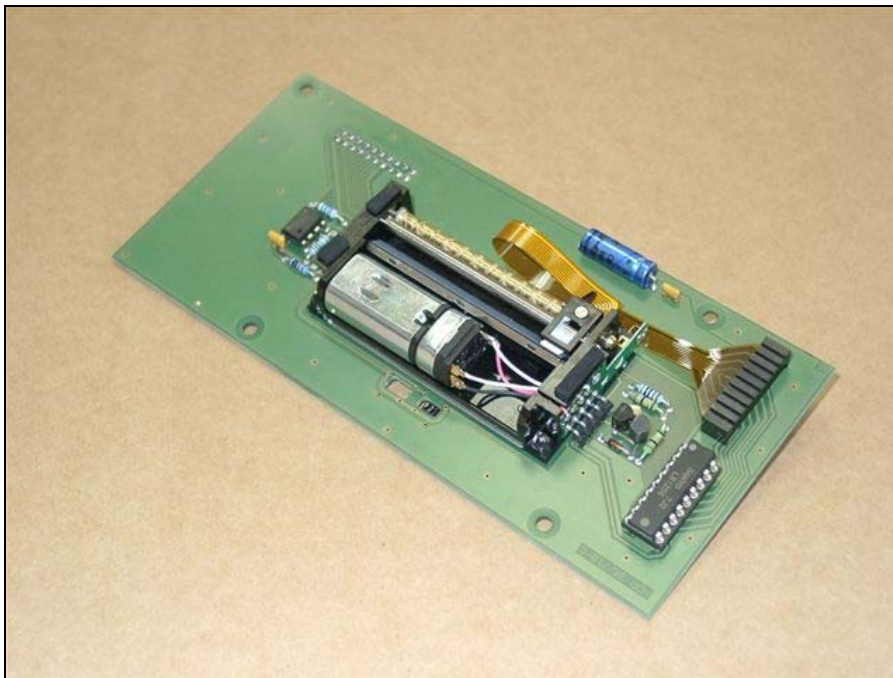


Figure 8: CoaDATA 2001/4001 Printing module

Hardware functions:

1. Printer control
2. Paper sensor

CoaDATA 2001/4001 RS232 Board V1

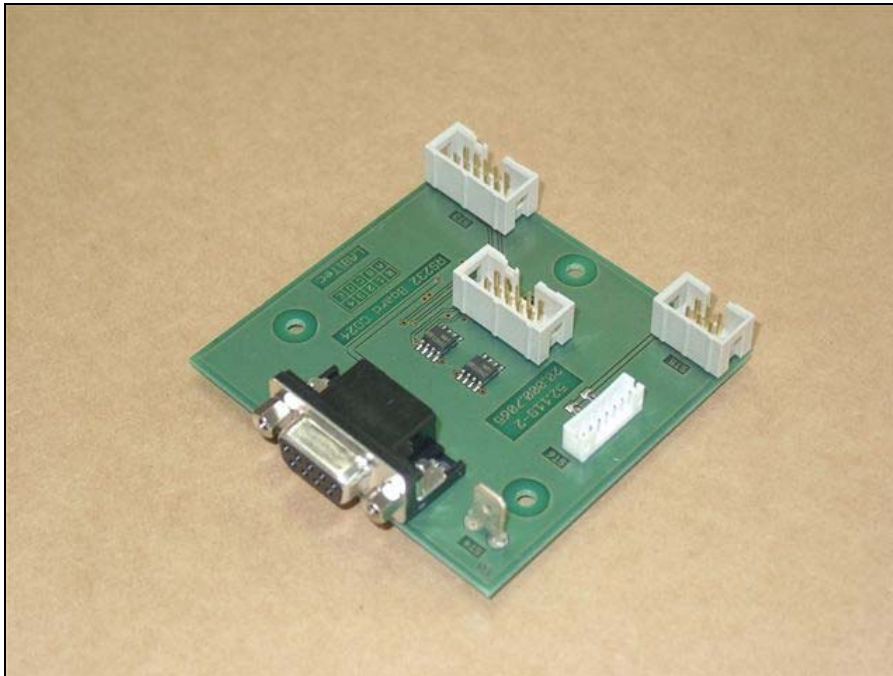


Figure 9: CoaDATA 2001/4001 Printing module

Hardware functions:

1. Signal break up
 - RS232 Port A (external)
 - RS232 Port B (internal)
2. Signal processing
 - Voltage supply for Printer module V1

CoaDATA 2001/4001 RS232 board V2



Figure 10: CoaDATA 2001/4001 Printing module

Hardware functions:

1. Signal break up
 - RS232 Port A (external)
 - RS232 Port B (external)

Keyboard Overlays

CoaData 4001 Membrane keyboard, black

80.000.0909

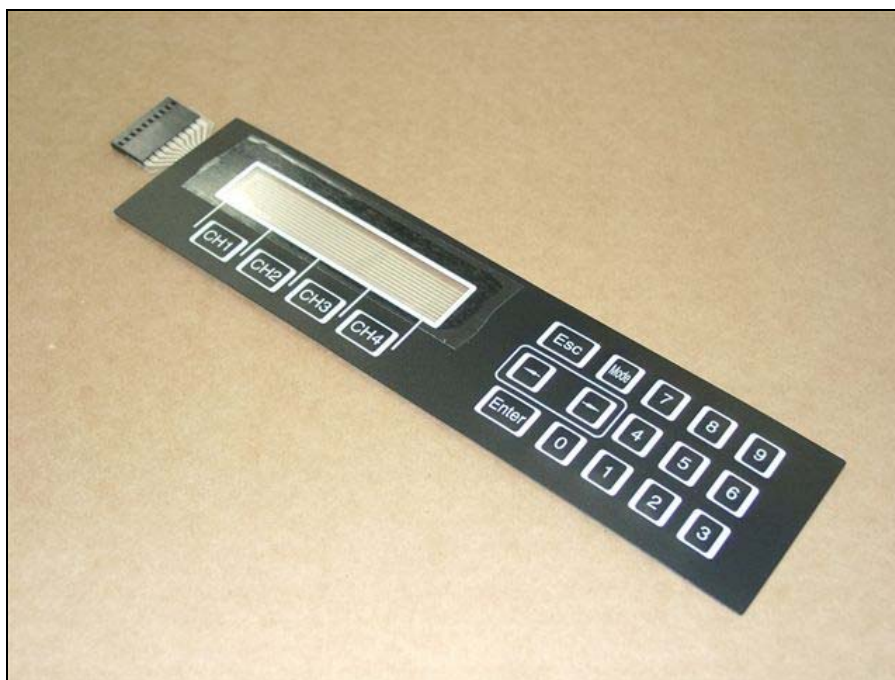


Figure 11: CoaData 4001 Membrane keyboard, black

4

Hardware functions:

1. Entries for communication with the analyzer

Keyboard matrix

Pin		4	5	6	7	8	9	10
		S1	S2	S3	S4	S5	S6	S7
1	Z1	Esc	Mode	7	8	9	CH1	---
2	Z2	<	>	4	5	6	CH2	---
3	Z3	Enter	0	1	2	3	CH3	CH4

Explanation:

Pin = Connectors pin
Sx = Column
Zx = Line

CoaData 2001 Membrane keyboard, black

80.000.0929

4

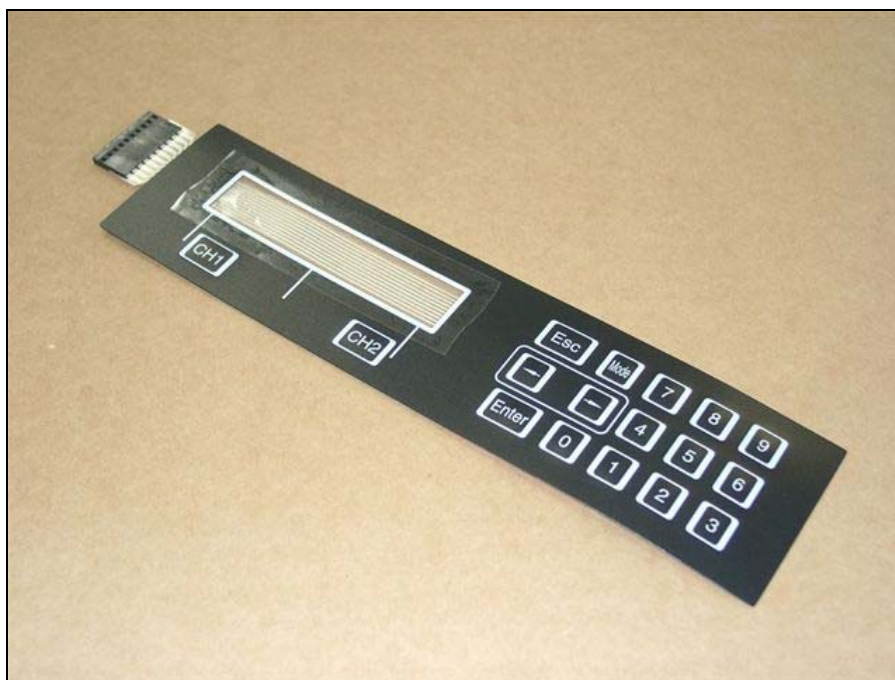


Figure 12: CoaData 2001 Membrane keyboard, black

Hardware functions:

1. Entries for communication with the analyzer

Keyboard matrix

Pin		4	5	6	7	8	9	10
		S1	S2	S3	S4	S5	S6	S7
1	Z1	Esc	Mode	7	8	9	CH1	---
2	Z2	<	>	4	5	6	---	---
3	Z3	Enter	0	1	2	3	---	CH2

Explanation:

Pin = Connectors pin
Sx = Column
Zx = Line

CoaDATA 4001 Membrane keyboard, blue



Figure 13: CoaDATA 4001 Membrane keyboard, blue

4

Hardware functions:

1. Entries for communication with the analyzer

Keyboard matrix

Pin		4	5	6	7	8	9	10
		S1	S2	S3	S4	S5	S6	S7
1	Z1	Esc	Mode	7	8	9	CH1	---
2	Z2	<	>	4	5	6	CH2	---
3	Z3	Enter	0	1	2	3	CH3	CH4

Explanation:

Pin = Connectors pin
Sx = Column
Zx = Line

CoaDATA 2001 Membrane keyboard, blue

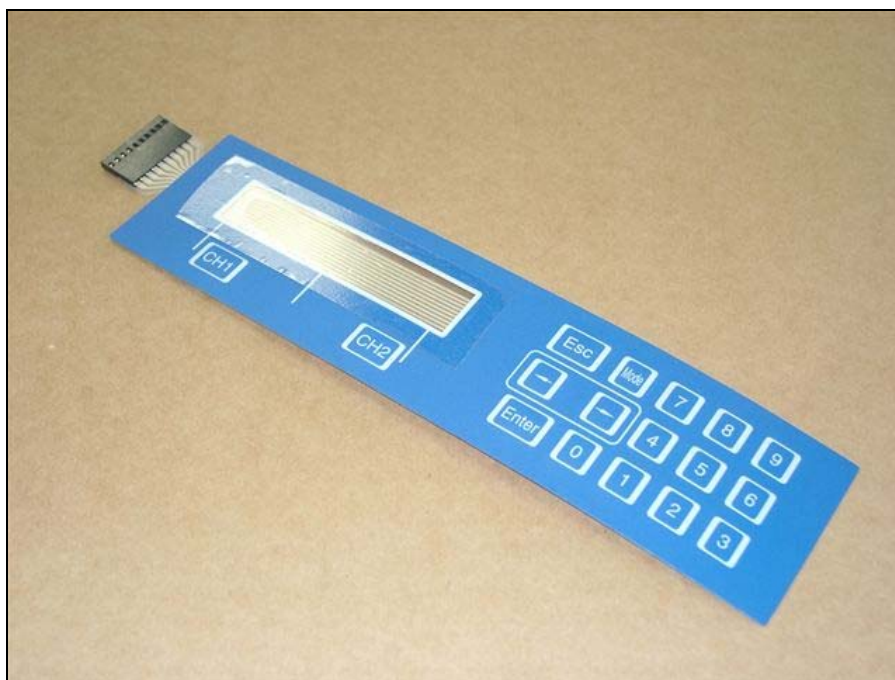


Figure 14: CoaDATA 2001 Membrane keyboard, blue

Hardware functions:

1. Entries for communication with the analyzer

Keyboard matrix

Pin		4	5	6	7	8	9	10
		S1	S2	S3	S4	S5	S6	S7
1	Z1	Esc	Mode	7	8	9	CH1	---
2	Z2	<	>	4	5	6	---	---
3	Z3	Enter	0	1	2	3	---	CH2

Explanation:

Pin = Connectors pin
Sx = Column
Zx = Line

Housing

CoaDATA 2001/4001 Top Housing, white

102-03-029-00

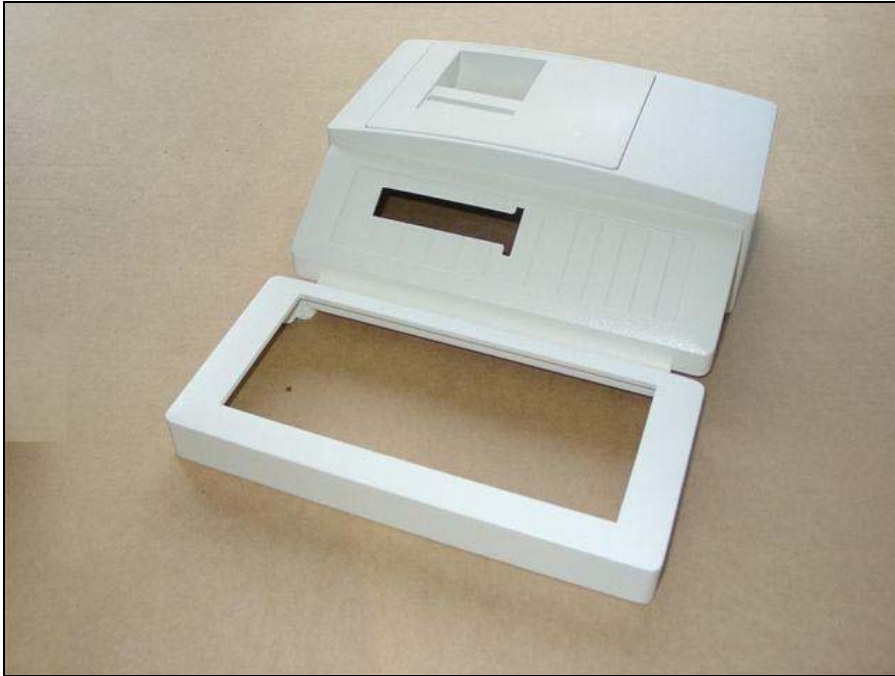


Figure 15: CoaDATA 4001 Housing

CoaDATA 2001/4001 Bottom Housing, red

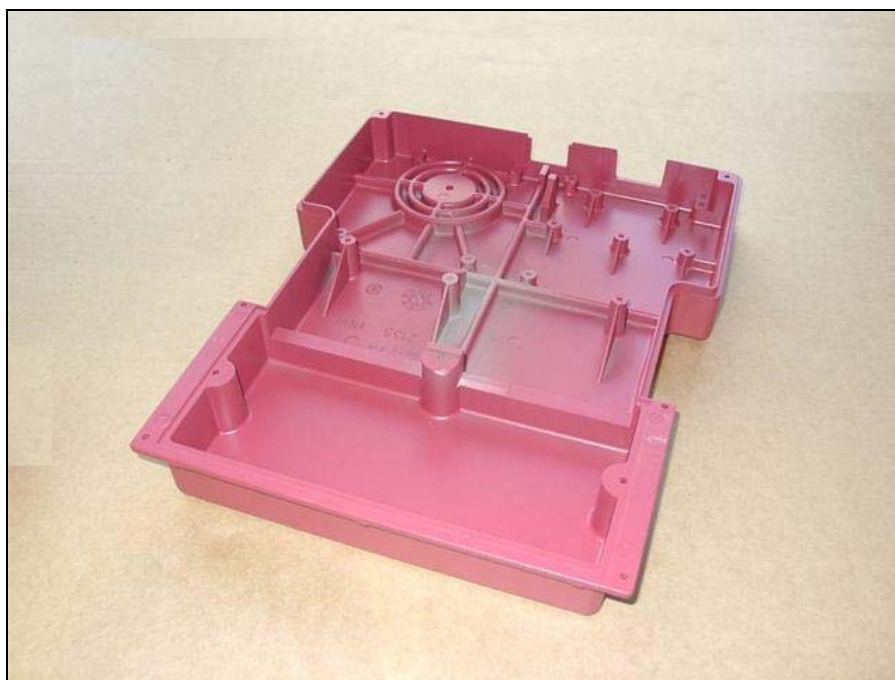


Figure 16: CoaDATA 2001 Housing

CoaDATA 2001/4001 Bottom Housing, blue

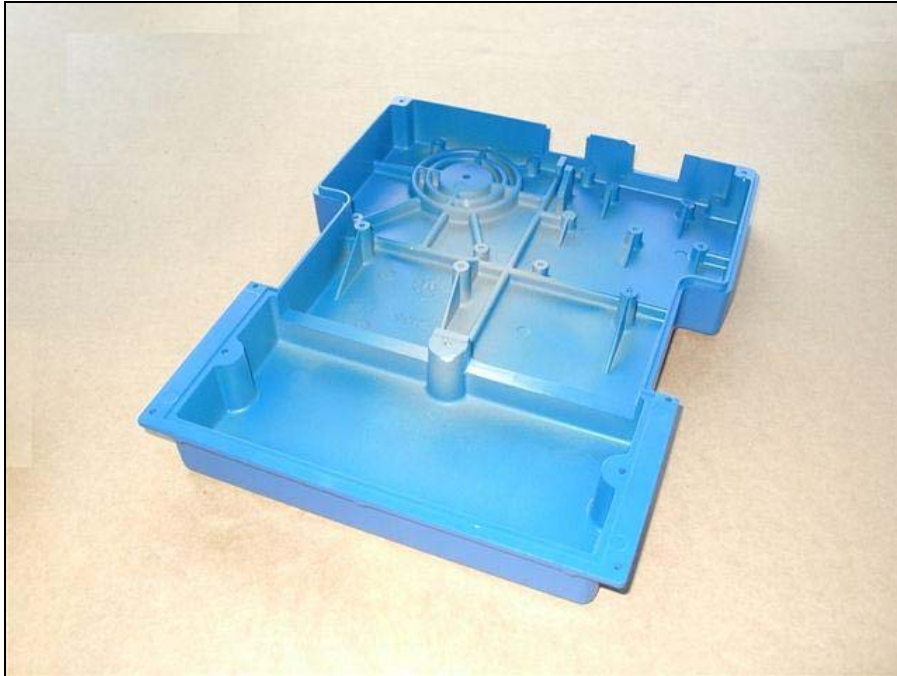


Figure 17: CoaDATA 2001 Housing

CoaDATA 2001/4001 Rubber feet, black

4

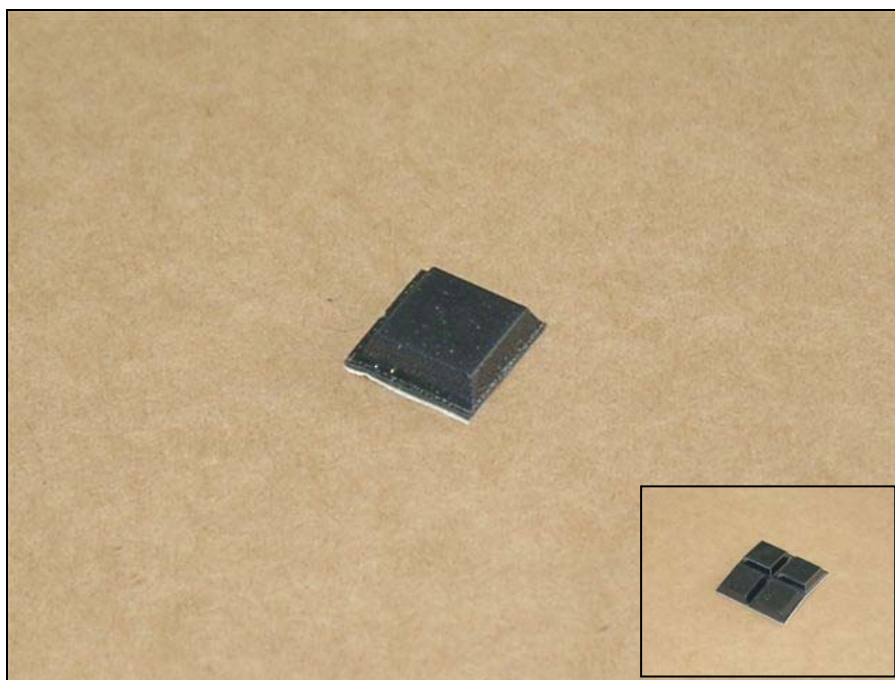


Figure 19: CoaDATA 2001 Housing

CoaDATA 2001/4001 Rating plate

On request



Figure 20: CoaDATA 2001/4001 Rating plate

Note:

The Rating plate (Type plate) is only available in combination with a housing bottom. There for inform LABiTec about Type, REF-no and SN (Serial-Number) you need.

Cables

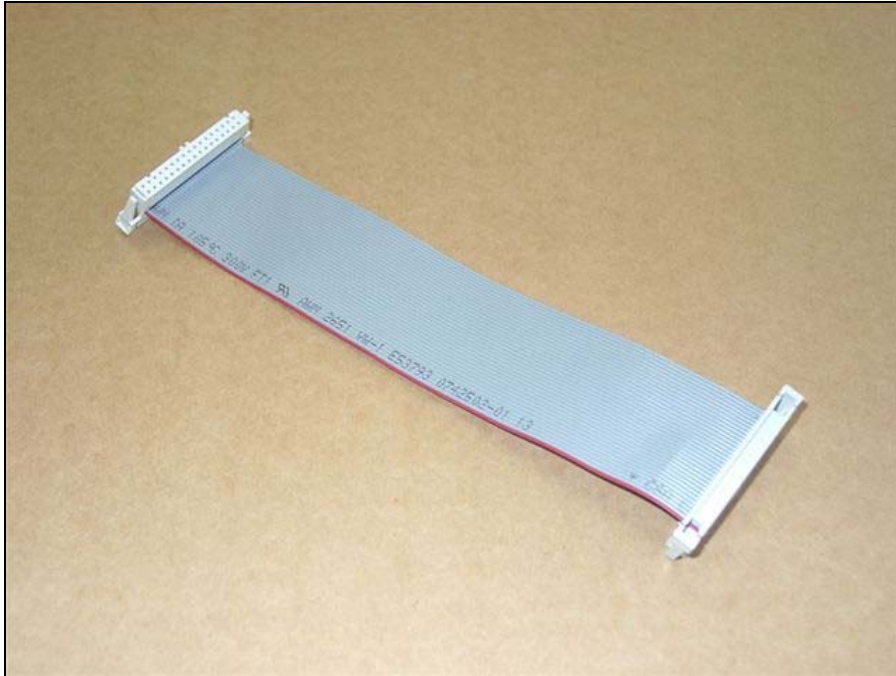
CoaDATA 2001/4001 Datacable for Cardreader**102-15-089-00**

Figure 21: CoaDATA 2001/4001 Datacable for Cardreader

CoaData 2001/4001 Datacable for Printer V1

102-15-049-00

4



Figure 22: CoaData 2001/4001 Datacable for Printer V1

CoaDATA 2001/4001 Datacable for Printer V2

102-15-119-00

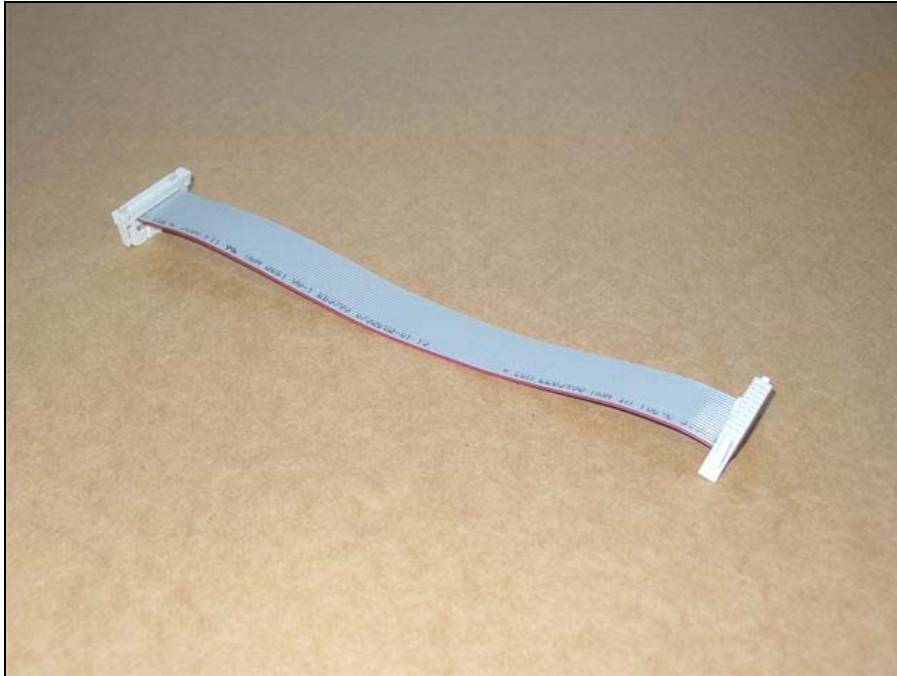


Figure 23: CoaDATA 2001/4001 Datacable for Printer V2

CoaDATA 2001/4001 Cable for Printer Power V1

102-15-059-00

4

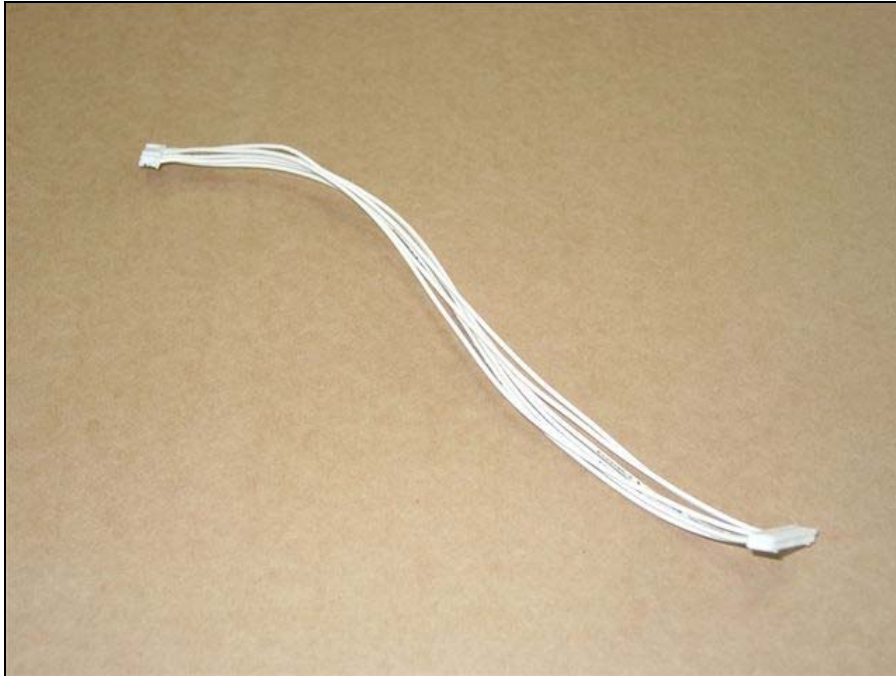


Figure 24: CoaDATA 2001/4001 Cable for Printer Power V1

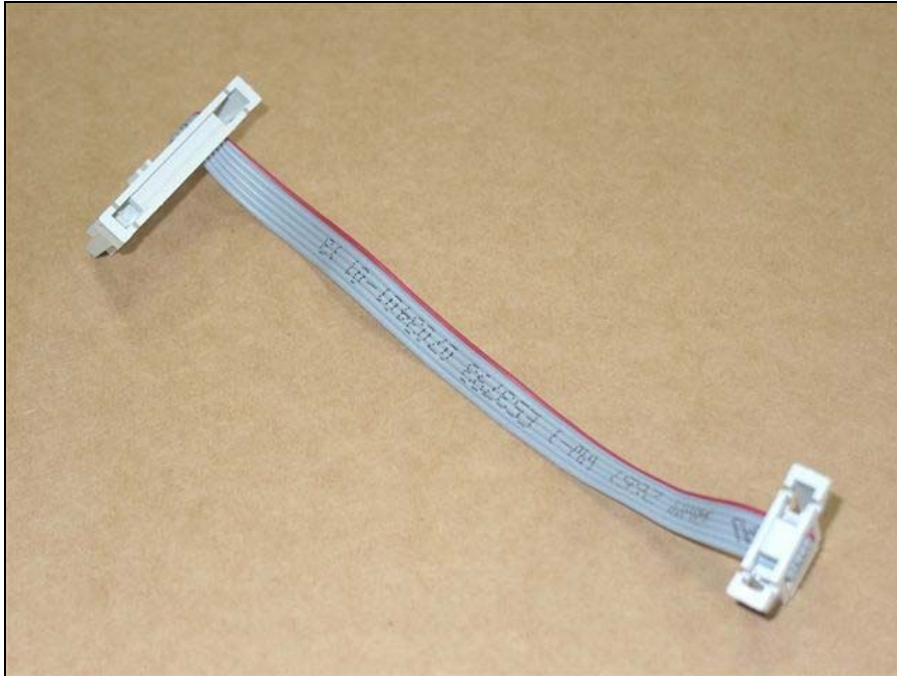
CoaDATA 2001/4001 Cable for 5V Power Printer V1**102-15-079-00**

Figure 25: CoaDATA 2001/4001 Cable for 5V Power Printer V1

CoaDATA 2001/4001 Power Cable Mainboard V1

102-15-029-00

4



Figure 26: CoaDATA 2001/4001 Power cable Mainboard V1

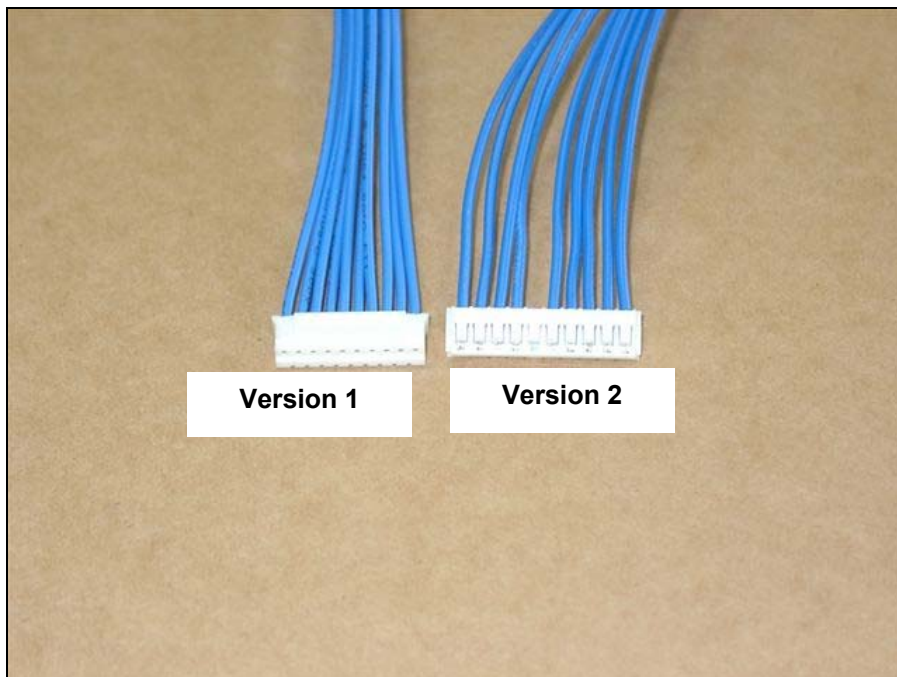


Figure 27: CoaDATA 2001/4001 Difference Power cable mainboard V1 / V2

CoaDATA 2001/4001 Power Cable Mainboard V2**102-15-039-00**

Figure 28: CoaDATA 2001/4001 Power cable Mainboard V2

CoaDATA 2001/4001 Internal RS232 cable

102-15-069-00

4



Figure 29: CoaDATA 2001/4001 Internal RS232 cable

CoaDATA 2001/4001 Power supply cord, Germany

20.000.0559



4

Figure 30: CoaDATA 2001/4001 Power supply cord, Germany

CoaDATA 2001/4001 Power supply cord, US

20.000.0576

4



Figure 31: CoaDATA 2001/4001 Power supply cord, US

CoaData 2001/4001 Data cable 9p SUB-D / 9p SUB-D

80.000.0934

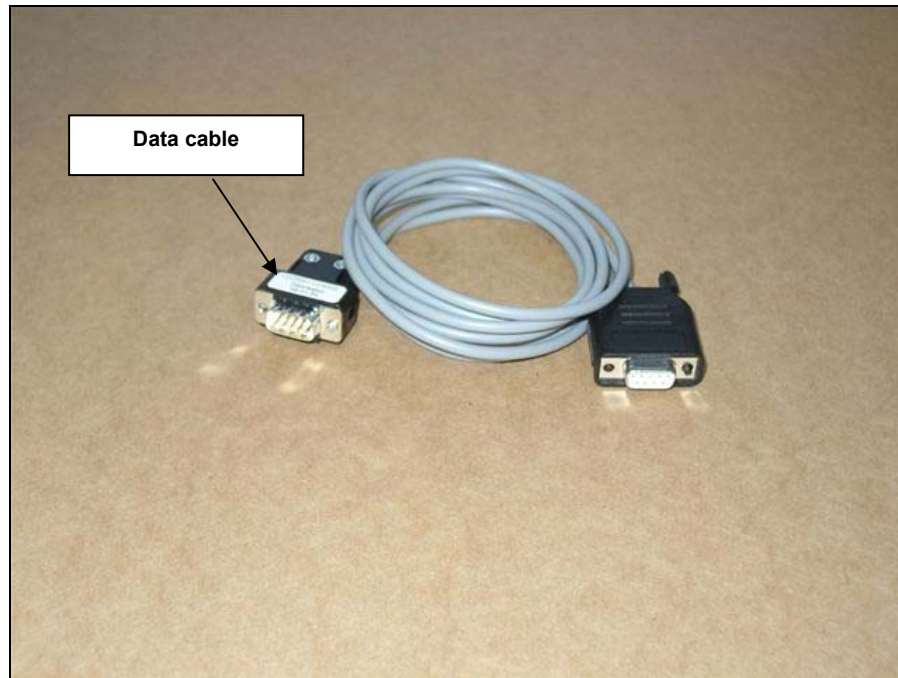
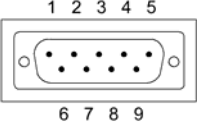
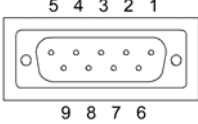


Figure 32: CoaData 2001/4001 Data cable

4

			
SUB-D 9 pole Male		DUB-D 9 pole Female	
Assignment		Assignment	
1	n.c.	1	n.c.
2	RxD	2	TxD
3	TxD	3	RxD
4	n.c.	4	n.c.
5	GND	5	GND
6	n.c.	6	n.c.
7	RTS	7	RTS
8	n.c.	8	CTS
9	Boot	9	n.c.

Do not Use!

CoaDATA 2001/4001 Data cable 9p SUB-D / 25p SUB-D

80.000.0935

DISCONTINUED

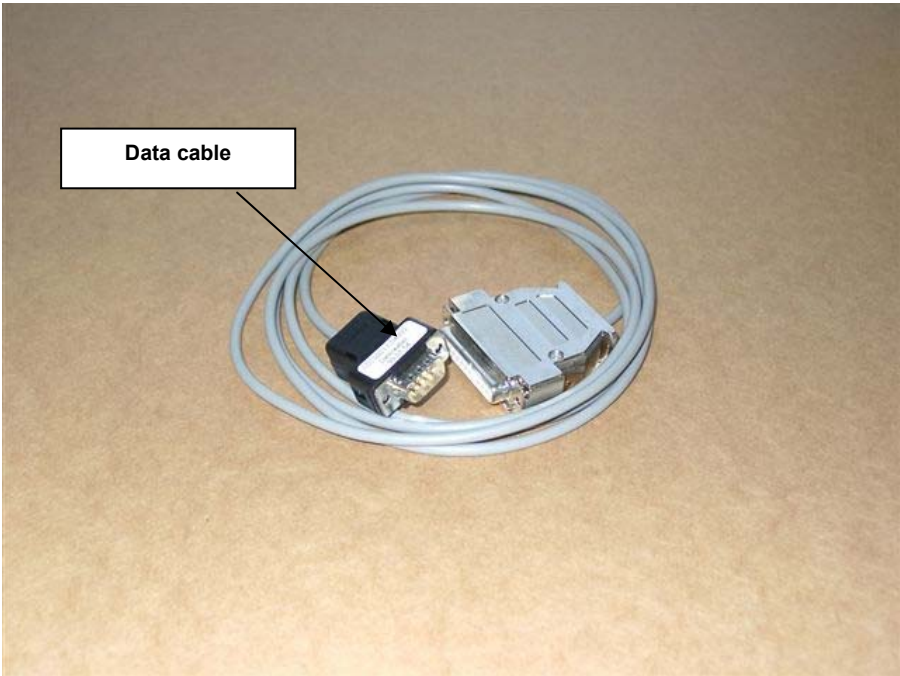
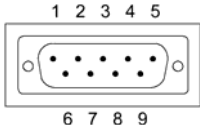
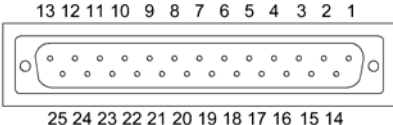


Figure 33: CoaDATA 2001/4001 Data cable

			
SUB-D 9 pole Male		DUB-D 25 pole Female	
Assignment		Assignment	
1	n.c.	3	TxD
2	RxD	2	RxD
3	TxD	7	GND
4	n.c.	4	RTS
5	GND	5	CTS
6	n.c.	20	DTR
7	RTS	Do not Use!	
8	n.c.		
9	Boot		

CoaDATA 2001/4001 Programming cable 9p SUB-D / 9p SUB-D

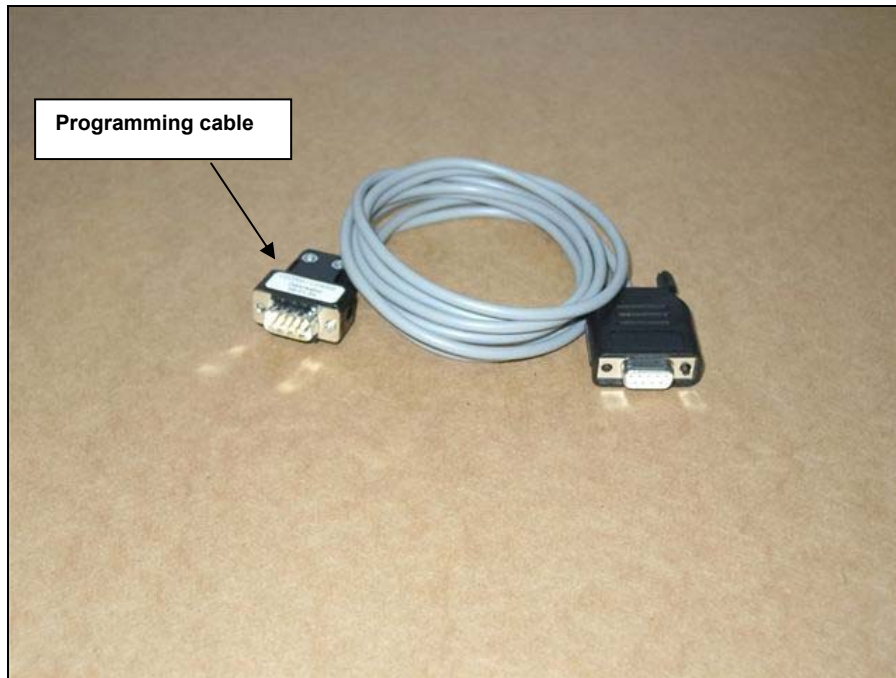


Figure 34: CoaDATA 2001/4001 Programming cable

4

SUB-D 9 pole Male			DUB-D 9 pole Female		
Assignment			Assignment		
1	n.c.	_____	1	n.c.	_____
2	RxD		2	TxD	
3	TxD		3	RxD	
4	n.c.		4	n.c.	
5	GND	●_____	5	GND	●_____
6	n.c.	_____	6	n.c.	_____
7	RTS		7	RTS	
8	n.c.	_____	8	CTS	
9	Boot		9	n.c.	

CoaDATA 2001/4001 Data cable 6p Mini-DIN / 9p SUB-D

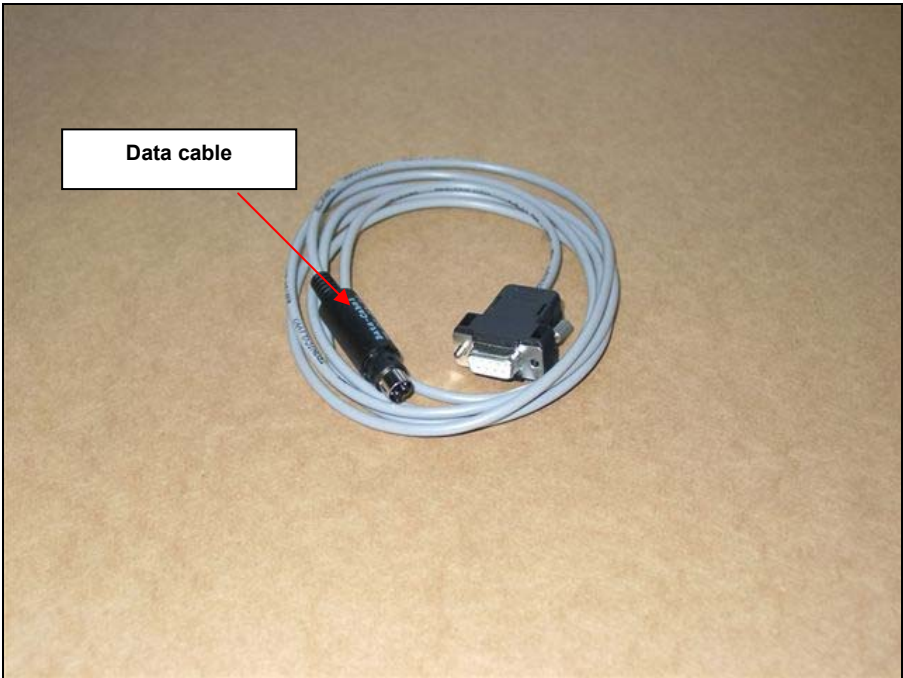
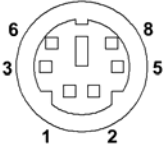
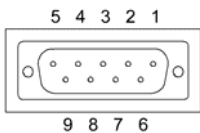


Figure 35: CoaDATA 2001/4001 Data cable

			
Mini-DIN 6pole Male		DUB-D 9 pole Female	
Assignment		Assignment	
1	Boot	Do not Use!	
2	GND		
3	CTS		
(4)			
5	TxD		
6	RTS		
(7)			
8	RxD		
		5	GND
		7	RTS
		8	CTS
		2	RxD
		3	TxD

CoaData 2001/4001 Programming cable 6p Mini-DIN / 9p SUB-D

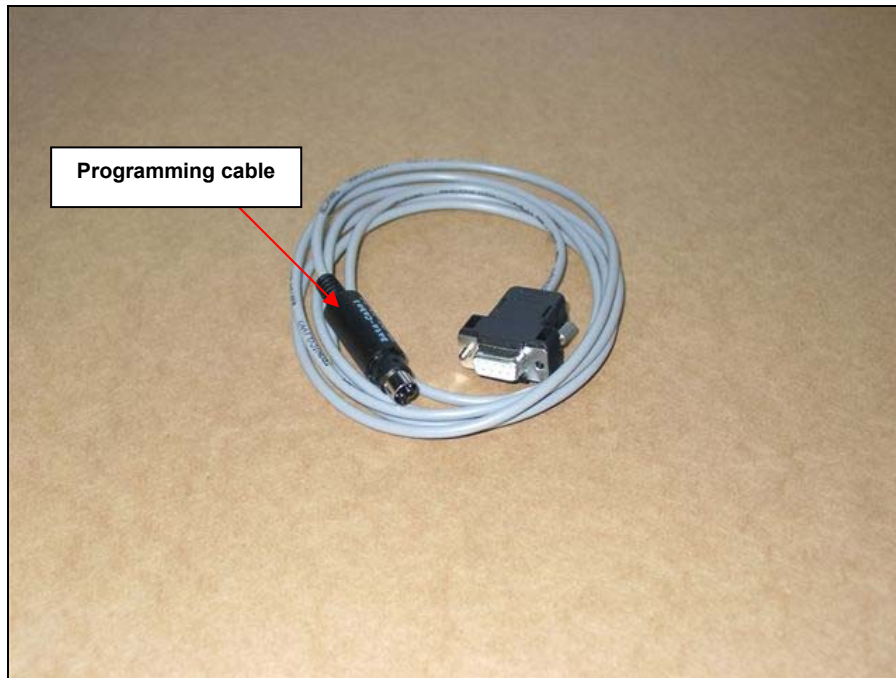
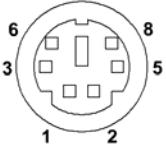
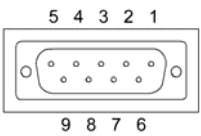
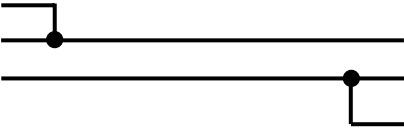
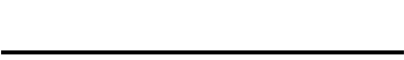


Figure 36: CoaData 2001/4001 Programming cable

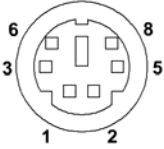
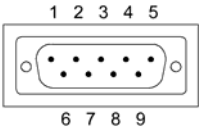
4

					
Mini-DIN 6pole Male			DUB-D 9 pole Female		
Assignment			Assignment		
1	Boot		5	GND	
2	GND		5	GND	
3	CTS		7	RTS	
(4)			8	CTS	
5	TxD		2	RxD	
6	RTS				
(7)					
8	RxD		3	TxD	

CoaDATA 2001/4001 Datacable for DPU 414 Printer



Figure 37: CoaDATA 2001/4001 Datacable for DPU 414 Printer

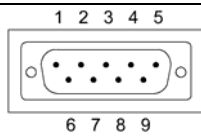
					
Mini-DIN 6pole Male			DUB-D 9 pole Male		
Assignment			Assignment		
1	Boot	Do not use!	5	GND	
2	GND		8	RTS	
3	CTS		3	RxD	
(4)					
5	TxD		2	TxD	
6	RTS		9	n.c.	
(7)			7	n.c.	
8	RxD		6	n.c.	
			1	n.c.	

RS232 Test plug SUB-D



Figure 38: CoaDATA 2001/4001 RS232 Testplug SUB-D

4



SUB-D 9 pole Male

Assignment

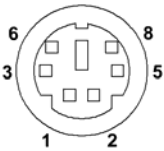
1	n.c.
2	RxD
3	TxD
4	n.c.
5	GND
6	n.c.
7	RTS
8	n.c.
9	Boot



RS232 Test plug Mini-DIN



Figure 39: CoaDATA 2001/4001 RS232 Testplug Mini-DIN



Mini-DIN 6pole Male

Assignment		Assignment
1	Boot	
2	GND	
3	CTS	
(4)		
5	TxD	
6	RTS	
(7)		
8	RxD	

Thermal block

CoaDATA 4001 Thermal block



Figure 40: CoaDATA 4001 Thermal block

CoaDATA 2001 Thermal block

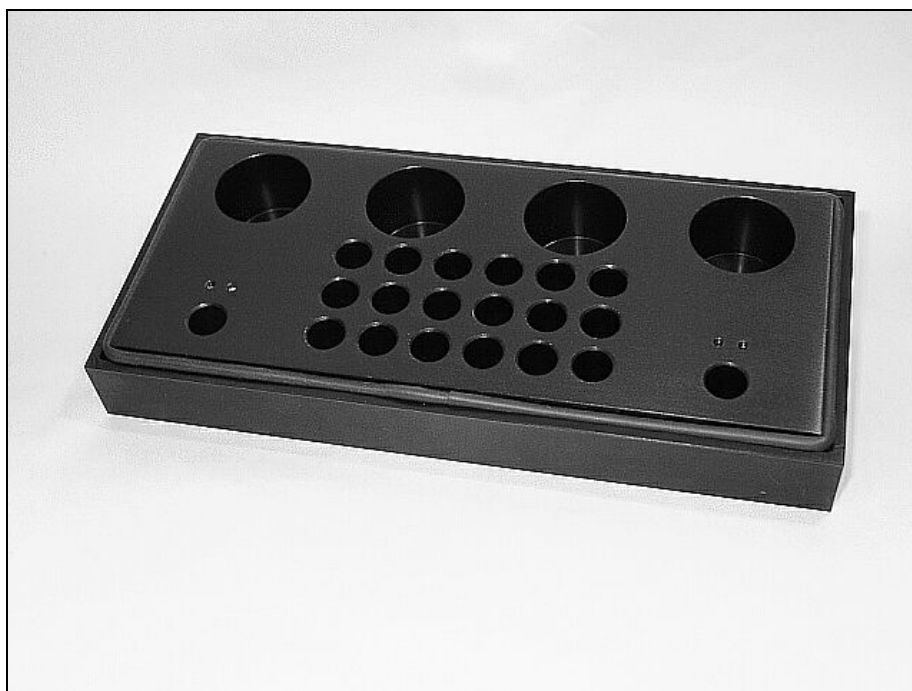


Figure 41: CoaDATA 2001 Thermal block

Small Parts

CoaDATA 2001/4001 Mixer- and Stirrermotor V4

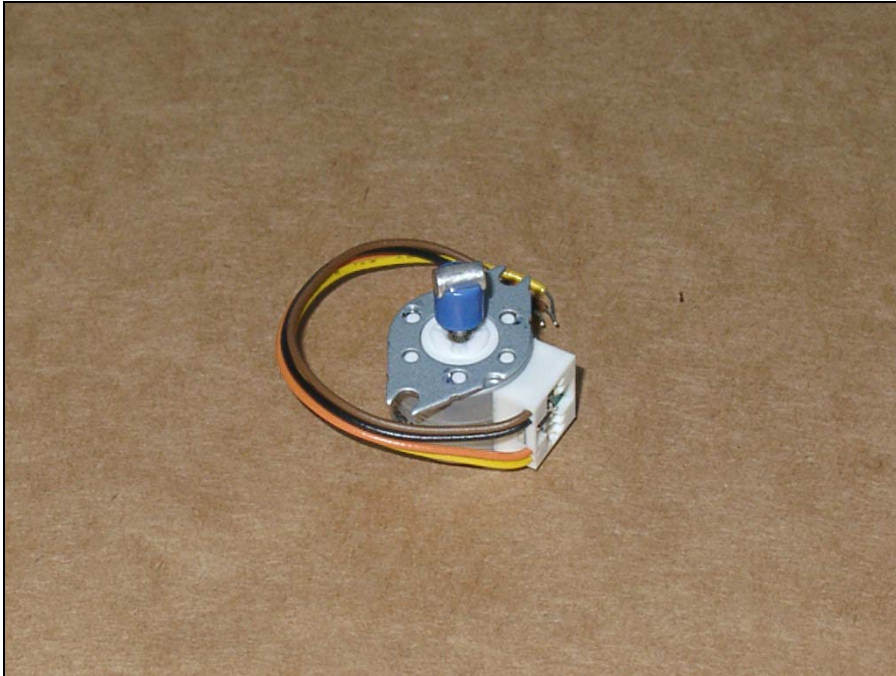


Figure 42: CoaDATA 2001/4001 Mixer- and Stirrermotor V4

CoaDATA 2001/4001 Battery CR2032



Figure 43: CoaDATA 2001/4001 Battery CR2032

CoaDATA 2001/4001 Rubber seal



Figure 44: CoaDATA 2001/4001 Rubber seal

CoaDATA 2001/4001 Small parts Kit V2



Figure 45: CoaDATA 2001/4001 Small parts Kit

CoaDATA 2001/4001 Fuses (spare)

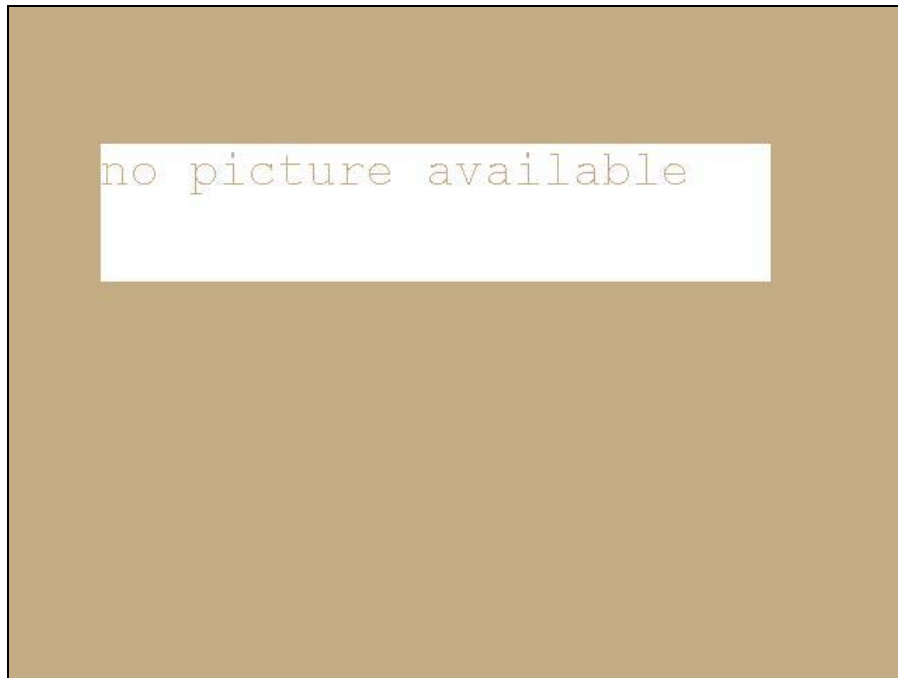


Figure 46: CoaDATA 2001/4001 Fuses (spare)

CoaDATA 2001/4001 Dust cover

80.000.0908

4



Figure 47: CoaDATA 2001/4001 Dust cover

CoaDATA 2001/4001 Light protection cap 5,2mm

80.000.0936



Figure 48: CoaDATA 2001/4001 Light protection cap

4

Hardware functions:

Cover the measuring cell
Adapt the pipette tip

Specifications:

Indicator:	Comment
Basic color:	black
Marking / Indicator:	yellow
Hole diameter for pipette:	5,2 mm
Suitable for:	yellow Eppendorf Tip

CoaDATA 2001/4001 Light protection cap 5,8 mm

80.000.0938



Figure 49: CoaDATA 2001/4001 Light protection cap

Hardware functions:

Cover the measuring cell
Adapt the pipette tip

Specifications:

Indicator:	Comment
Basic color:	black
Marking / Indicator:	white
Hole diameter for pipette:	5,8 mm
Suitable for:	white LABiTec Tip

CoaDATA 2001/4001 Light protection cap 5,2mm

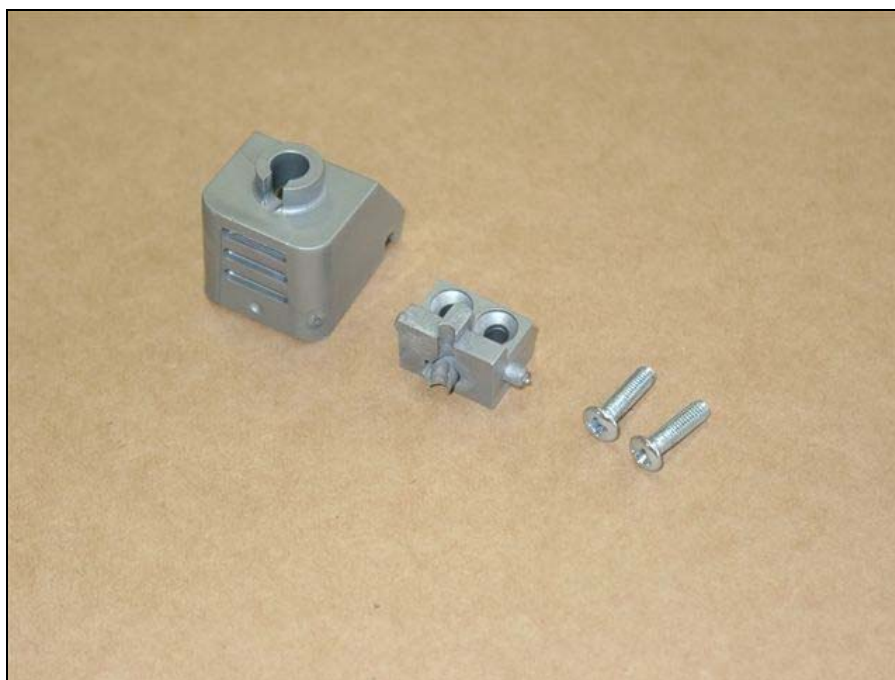


Figure 50: CoaDATA 2001/4001 Light protection cap

4

Hardware functions:

Cover the measuring cell
Adapt the pipette tip

Specifications:

Indicator:	Comment
Basic color:	Silver
Marking / Indicator:	No marking
Hole diameter for pipette:	5,2 mm
Suitable for:	yellow Eppendorf Tip

Consumable Material

CoaDATA 2001/4001 Printer paper**30.000.0982**

Figure 53: CoaDATA 2001/4001 Printerpaper

CoaDATA 2001/4001 Bottle 15ml

30.000.0724

4



Figure 54: CoaDATA 2001/4001 Bottle 15ml

CoaDATA 2001/4001 Teflon stirrer

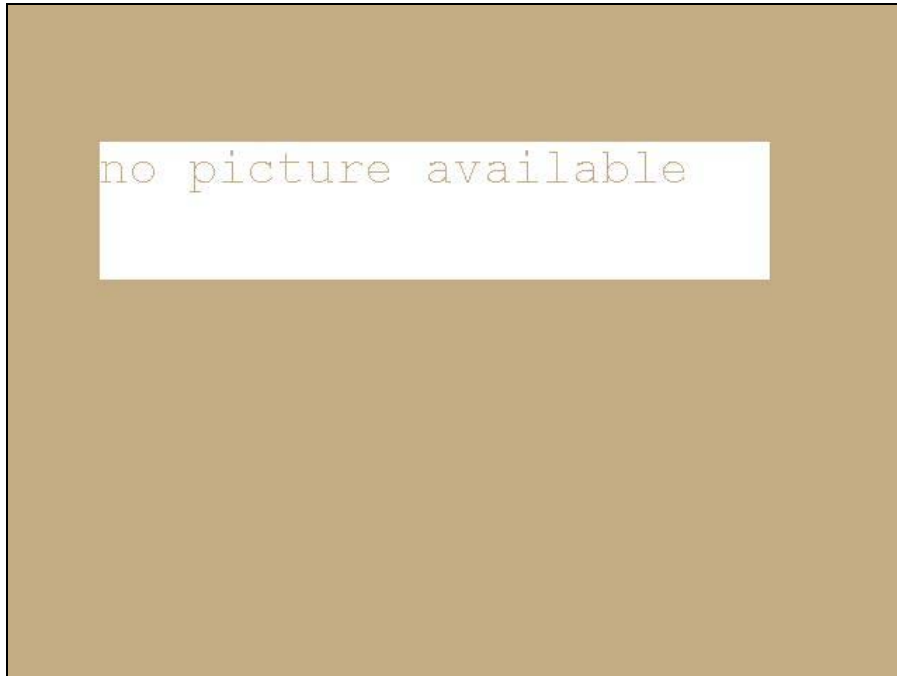
30.000.1330



Figure 55: CoaDATA 2001/4001 Teflon stirrer

CoaDATA 2001/4001 Disposable micro cuvette

customised



4

Figure 56: CoaDATA 2001/4001 Disposable micro cuvette

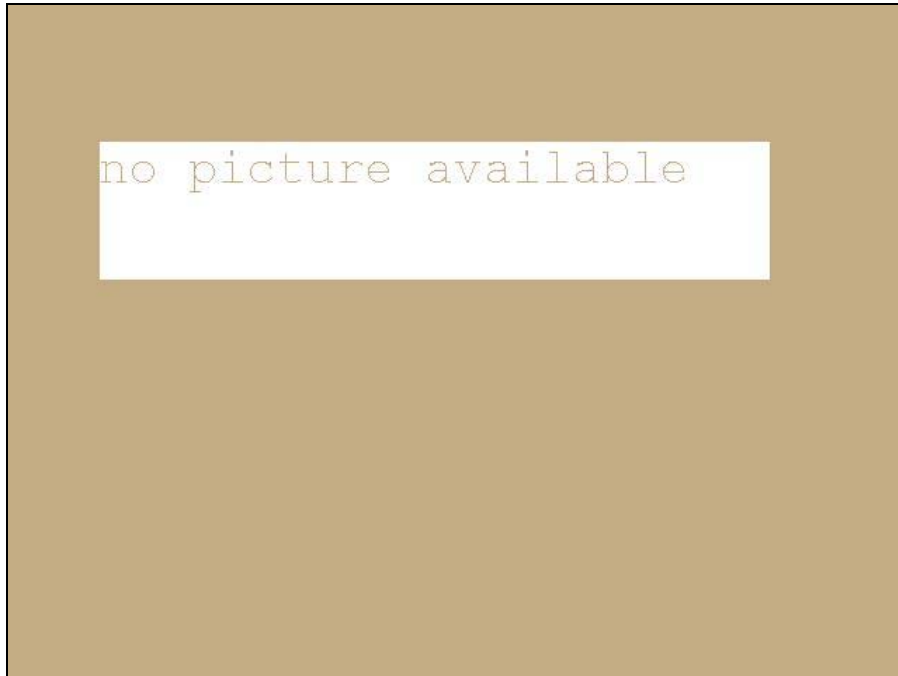
CoaDATA 2001/4001 Disposable FL cuvette**customised****4**

Figure 57: CoaDATA 2001/4001 Disposable FL-Cuvette

ChipCARDS

Hardware components

Wiring diagrams overview

CoaDATA 2001/4001 with Power supply V1 / Printing Module V1
CoaDATA 2001/4001 with Power supply V1 / Printer Board V2
CoaDATA 2001/4001 with Power supply V2 / Printer Board V2

Connectors positions

CoaDATA 4001 Main board
CoaDATA 2001 Main board
CoaDATA 2001/4001 Power supply board V1
CoaDATA 2001/4001 Power supply board V2
CoaDATA 2001/4001 Chipcard reader V2
CoaDATA 2001/4001 Printing Module V1
CoaDATA 2001/4001 Printer board V2
CoaDATA 2001/4001 RS232 board V1
CoaDATA 2001/4001 RS232 board V2

Pin assignment

CoaDATA 2001/4001 Main board
CoaDATA 2001/4001 Power supply board V1
CoaDATA 2001/4001 Power supply board V2
CoaDATA 2001/4001 Chipcard reader V2
CoaDATA 2001/4001 Printing Module V1
CoaDATA 2001/4001 Printer board V2
CoaDATA 2001/4001 RS232 board V1
CoaDATA 2001/4001 RS232 board V2

Block wiring diagrams

Block wiring diagram CoaData 2001/4001

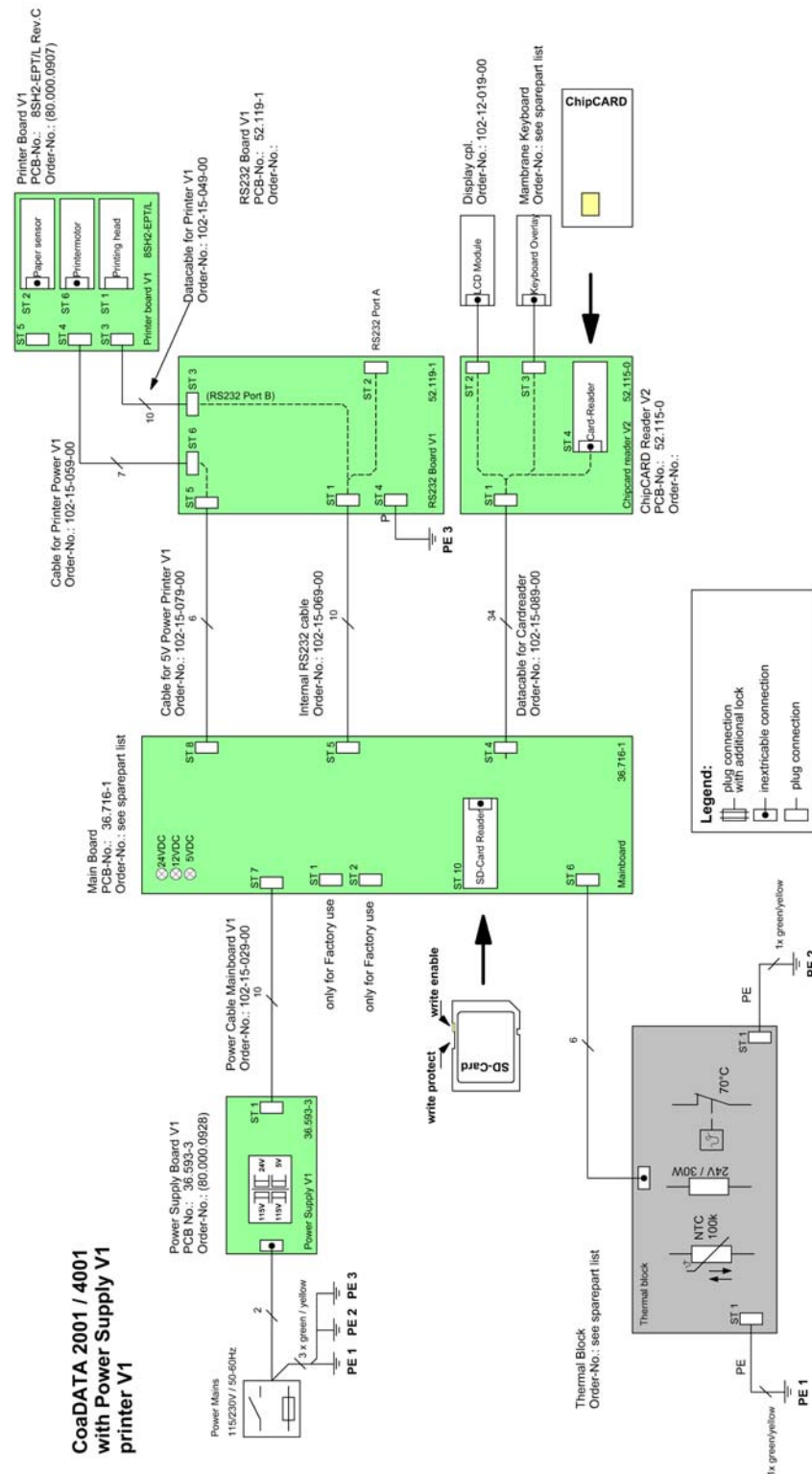


Figure 1: Block wiring diagram CoaData 2001/4001

Block wiring diagram CoaDATA 2001/4001

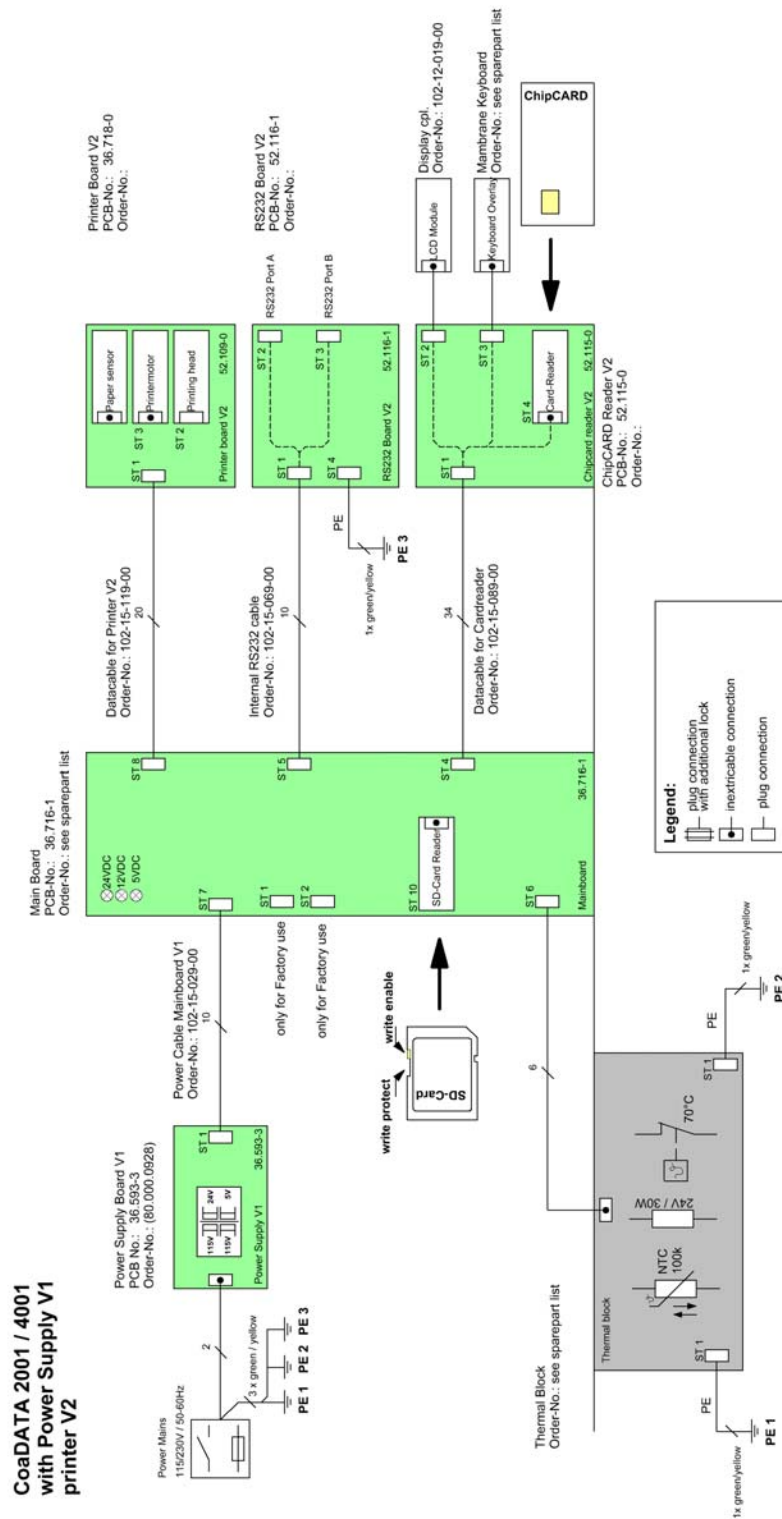


Figure 2: Block wiring diagram CoaDATA 2001/4001

Block wiring diagram CoaDATA 2001/4001

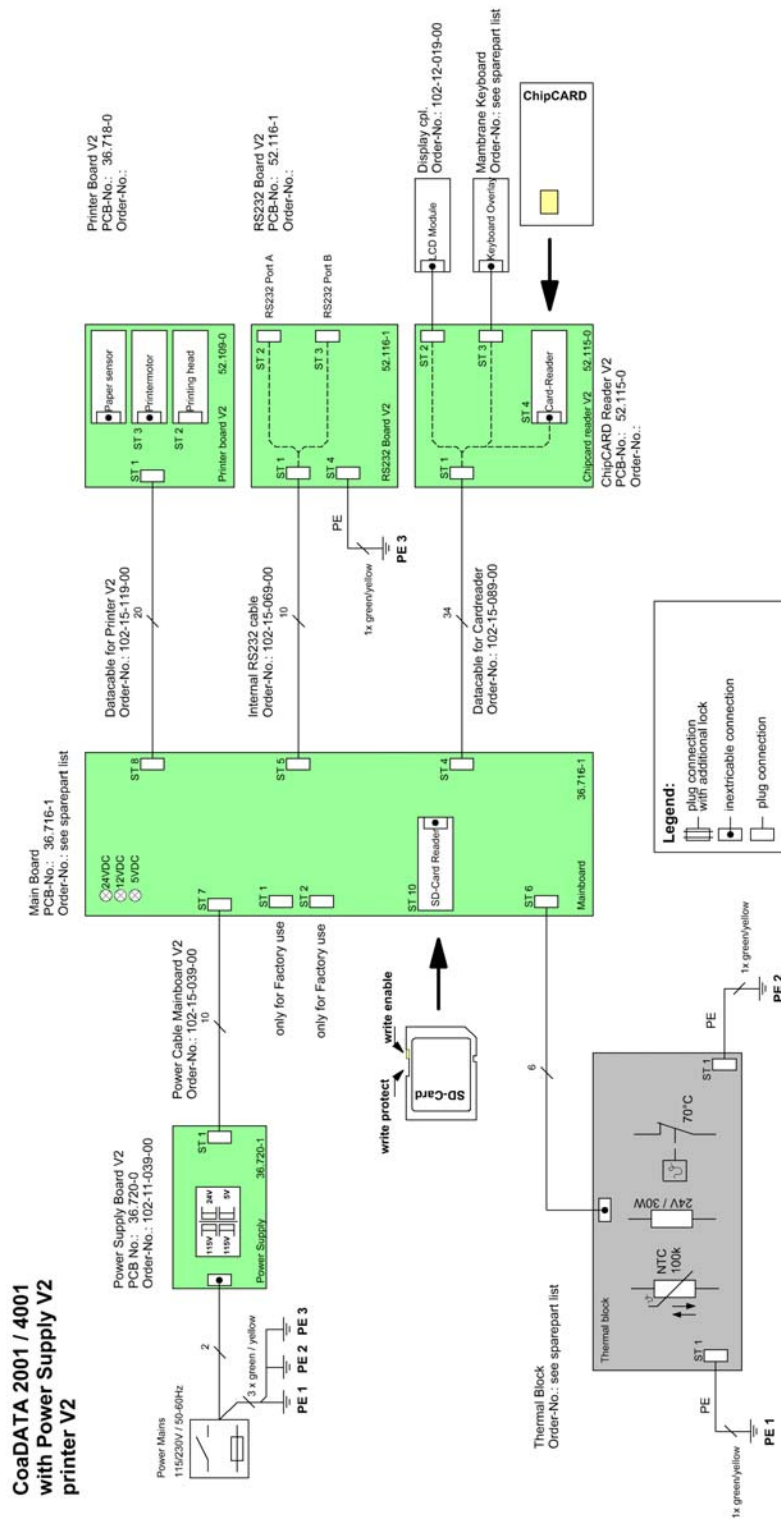


Figure 3: Block wiring diagram CoaDATA 2001/4001

Connectors positions

CoaDATA 4001 Main board

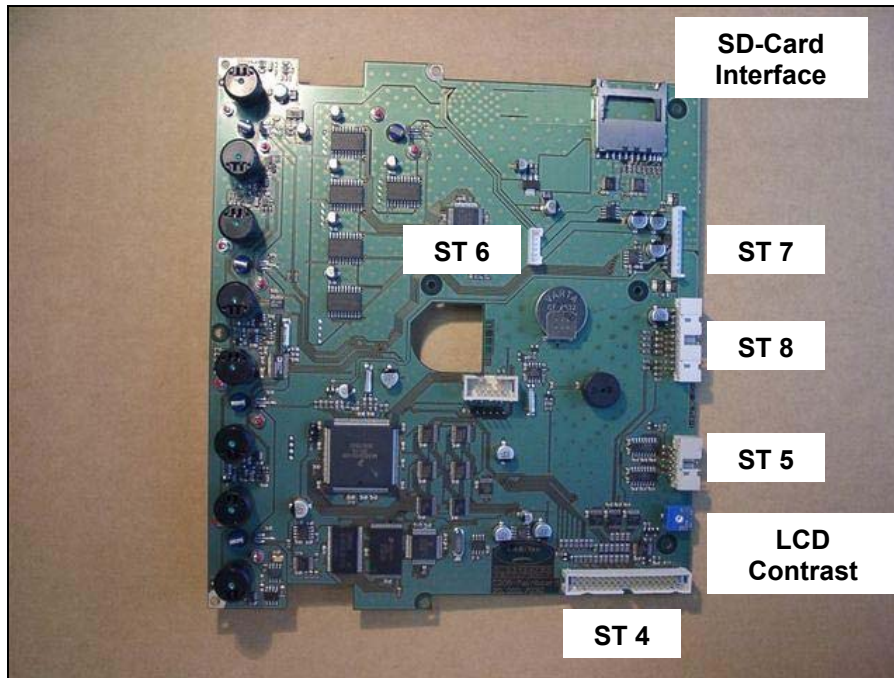


Figure 4: CoaDATA 4001 Main board

CoaDATA 2001 Main board

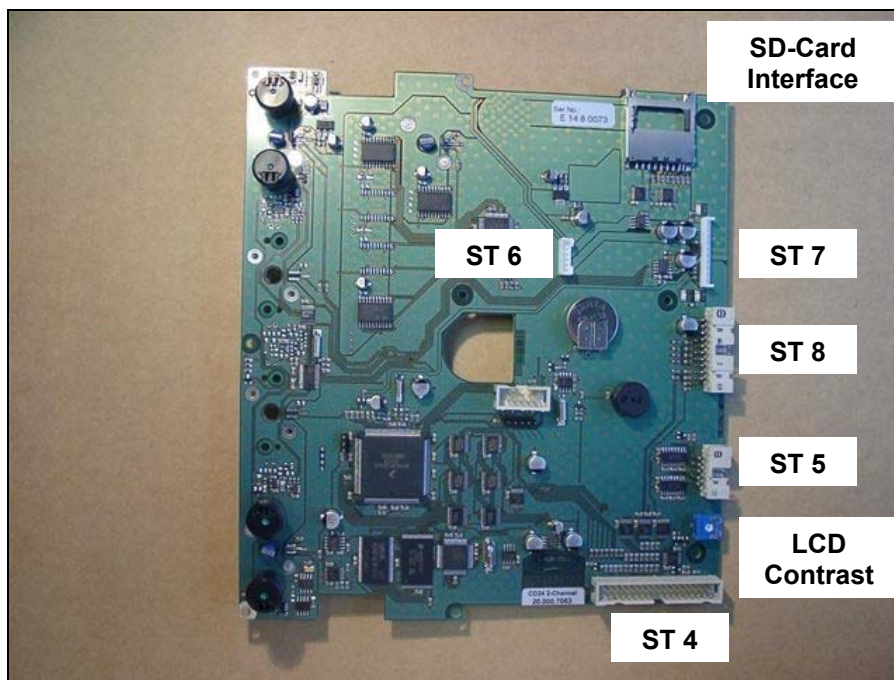


Figure 5: CoaDATA 2001 Main board

CoaDATA 2001/4001 Power Supply board V1

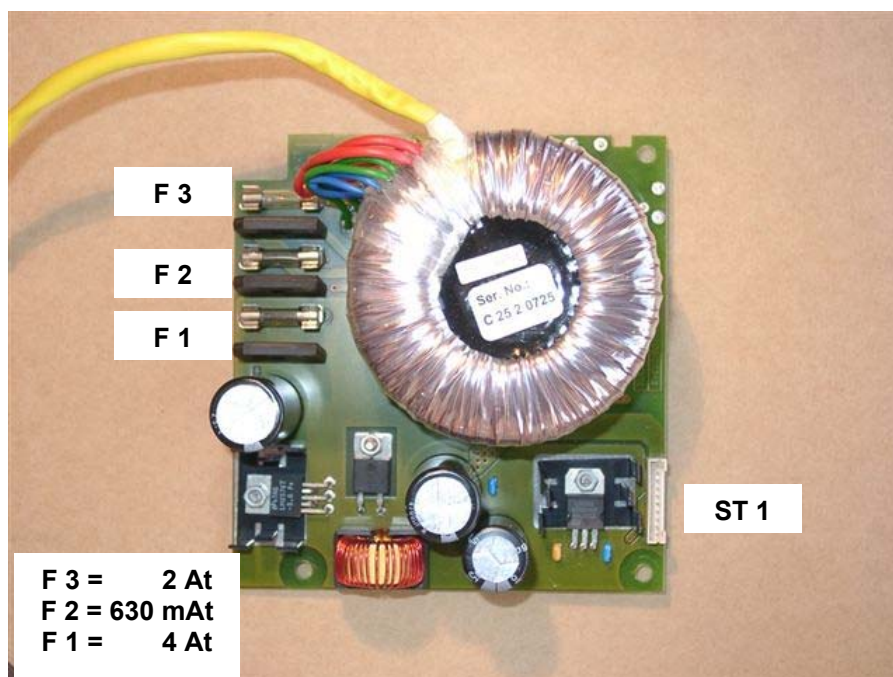


Figure 6: CoaDATA 2001/4001 Power Supply board V1

CoaDATA 2001/4001 Power Supply board V2

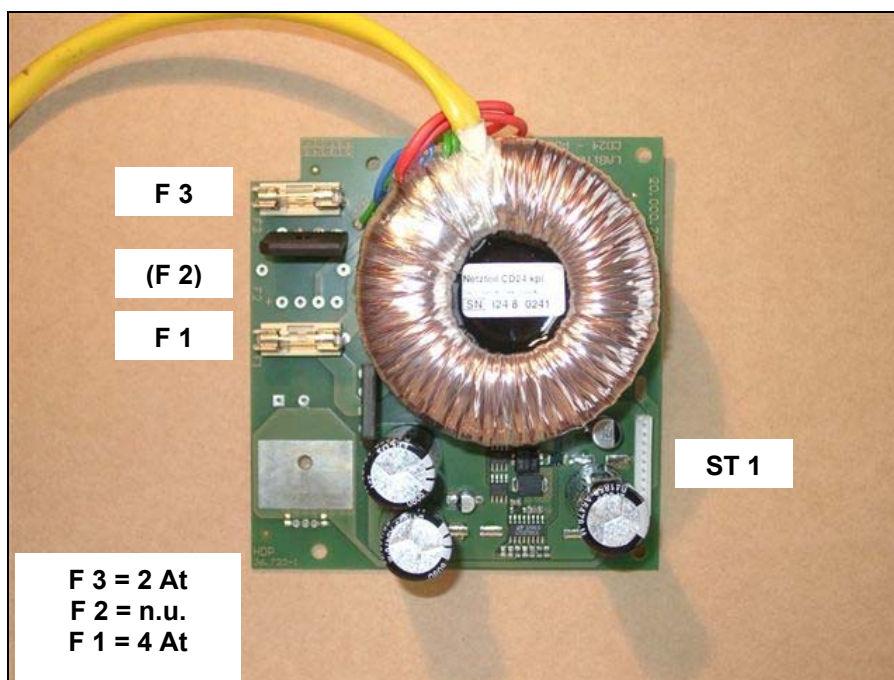


Figure 7: CoaDATA 2001/4001 Power Supply board V2

CoaDATA 2001/4001 Chipcard reader V2

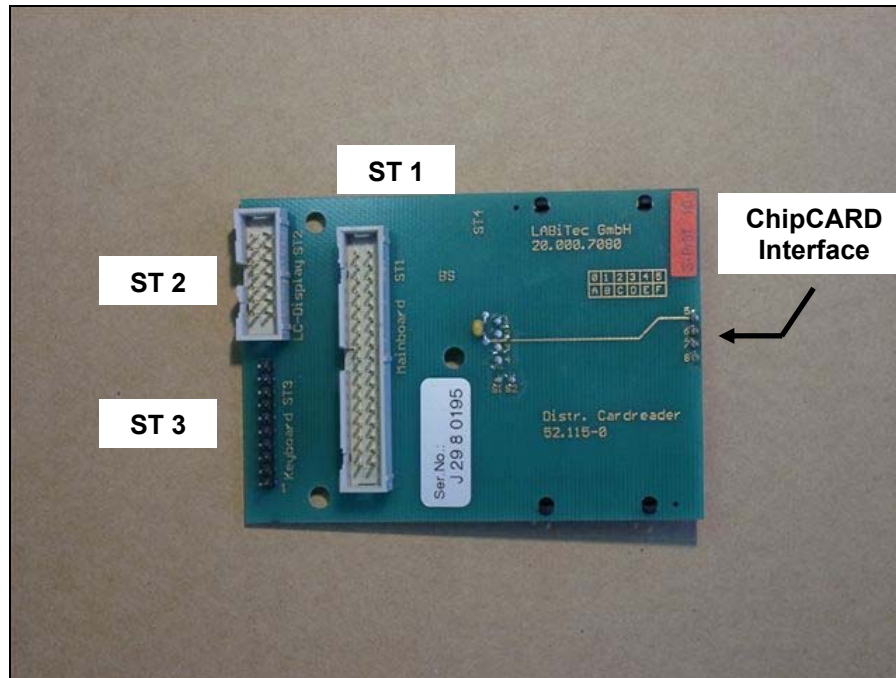


Figure 8: CoaDATA 2001/4001 Chipcard reader V2

CoaDATA 2001/4001 Printer Module V1

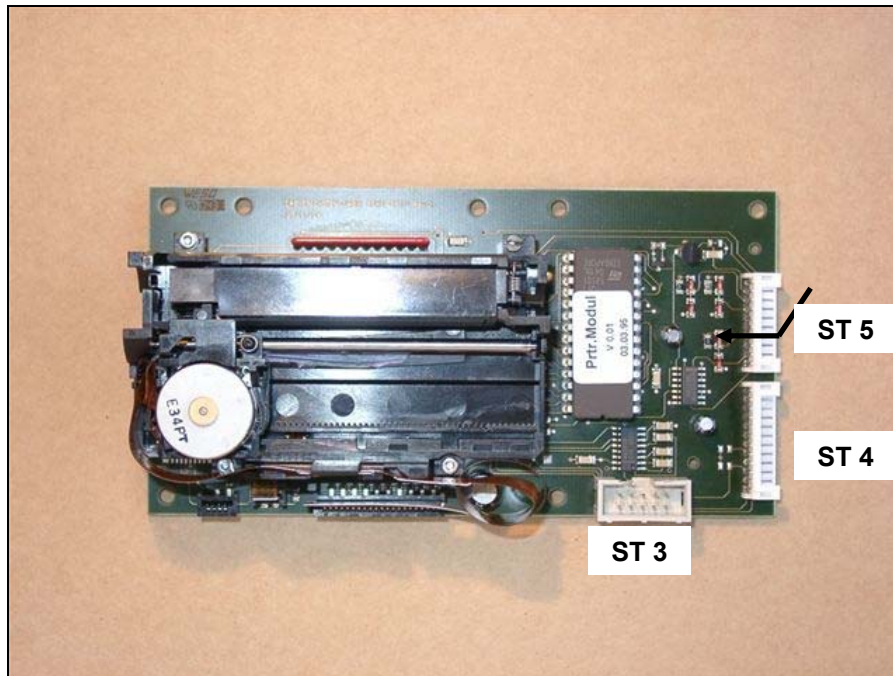


Figure 9: CoaDATA 2001/4001 Printer Module V1

CoaDATA 2001/4001 Printer board V2

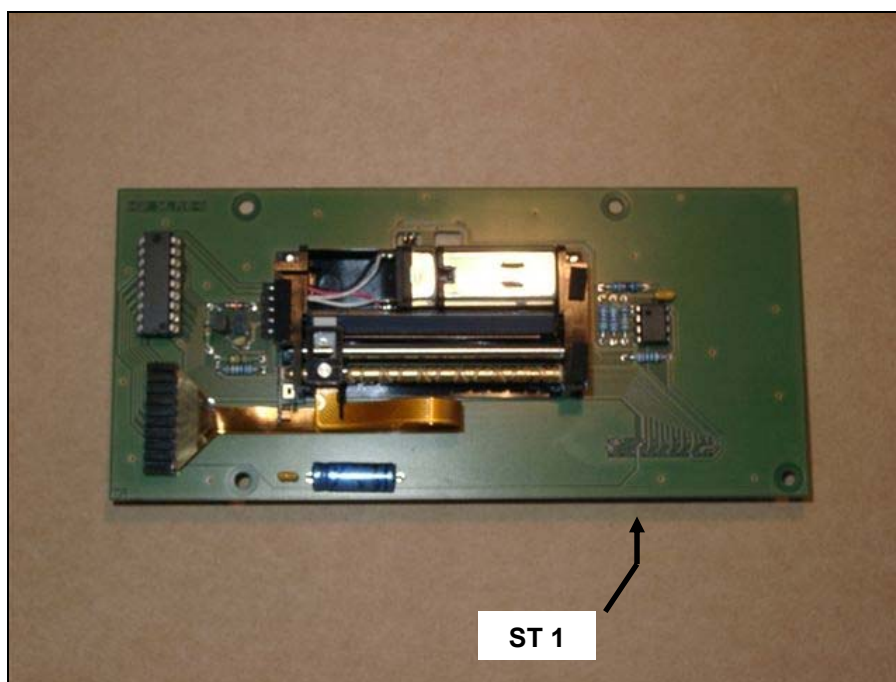


Figure 10: CoaDATA 2001/4001 Printer board V2

CoaDATA 2001/4001 RS232 board V1

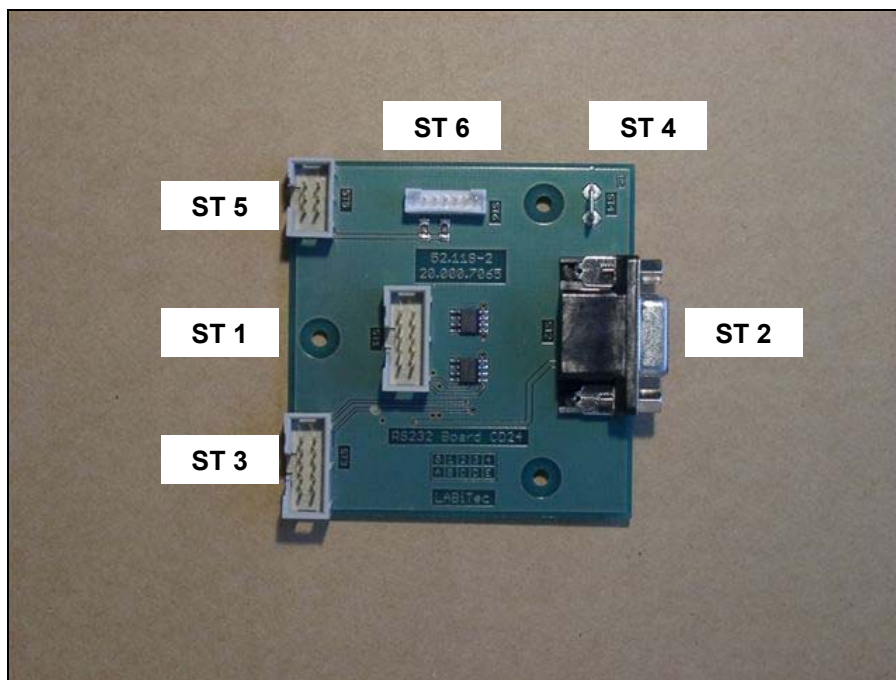


Figure 11: CoaDATA 2001/4001 RS232 board V1

CoaDATA 2001/4001 RS232 board V2

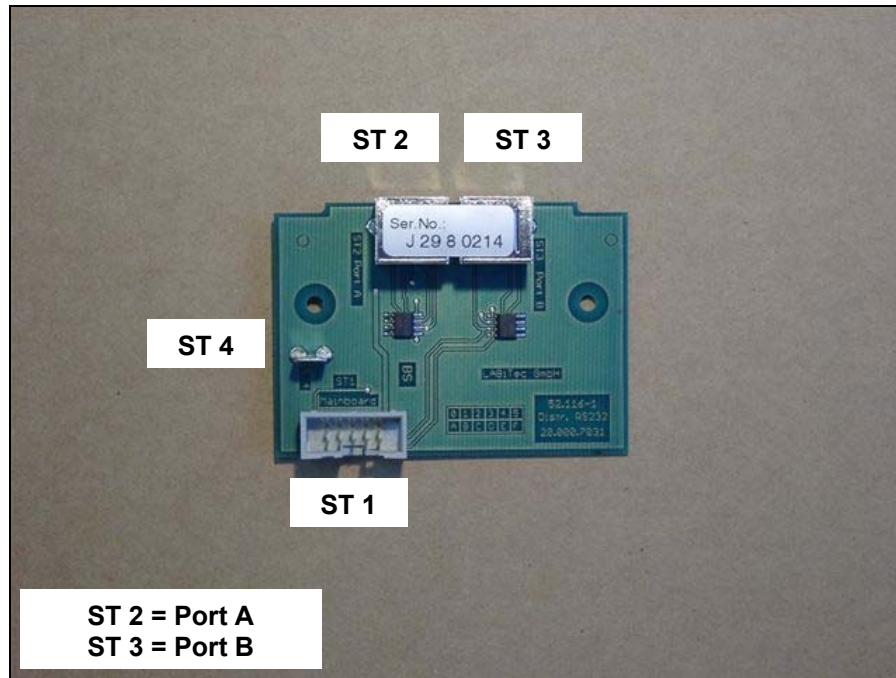


Figure 12: CoaDATA 2001/4001 RS232 board V2

Pin assignments

Pin Assignment Main board

1. Card reading board Connector

(ST 4)

Pin assignment

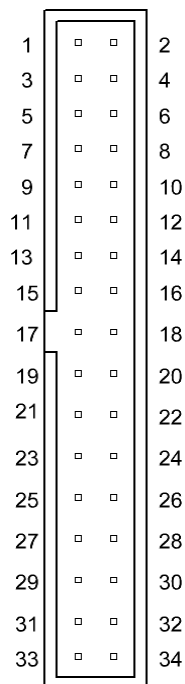


Figure 13: Card reading board connector (ST 4)

1	GND
2	+ 5VDC
3	Contrast
4	RS
5	R/W
6	EN
7	D0
8	D1
9	D2
10	D3
11	D4
12	D5
13	D6
14	D7
15	Column 7
16	Column 6
17	Column 5
18	Column 4
19	Column 3
20	Column 2
21	Column 1
22	Line 3
23	Line 2
24	Line 1
25	GND
26	GND
25	GND
26	GND
27	CR VCC
28	CR Reset
29	CR SCL
30	GND
31	CR VPP
32	CR SDA
33	CR CDRin SW
34	CR VCC SW

5

2. Internal RS232-Connector

(ST 5)

Pin assignment

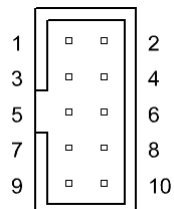


Figure 14: Internal RS232 Connector (ST 5)

1	BOOT
2	TxD 1
3	RxD 1
4	RTS 1
5	CTS 1
6	GND
7	TxD 2
8	RxD 2
9	RTS 2
10	GND

Pin Assignment Main board

Contd.

3. Thermoblock-Connector

(ST 6)

Pin assignment



1	NTC +
2	NTC -
3	Heat -
4	Heat -
5	+24VDC
6	+24VDC

Figure 15: Thermoblock Connector (ST 6)

4. Power-Connector

(ST 7)

Pin assignment



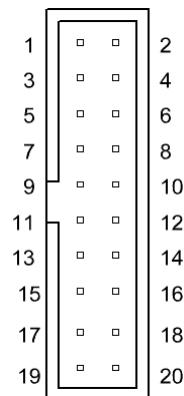
1	+ 5VDC
2	+ 5VDC
3	GND
4	GND
5	+12VDC (not used)
6	GND
7	+24VDC
8	+24VDC
9	GND (24VDC)
10	GND (24VDC)

Figure 16: Power Connector (ST 7)

5. Printer-Connector

(ST 8)

Pin assignment



1	VCC
2	VCC
3	VCC
4	GND1
5	GND1
6	GND1
7	Shield
8	PRT DOT1
9	PRT DOT2
10	PRT DOT3
11	PRT DOT4
12	PRT DOT5
13	PRT DOT6
14	PRT DOT7
15	PRT Mot
16	VCC
17	PRT Tacho
18	GND2
19	PRT Home
20	PRT PE

Figure 17: Printer Connector (ST 8)

Pin Assignment Power supply board V1

6. Power-Connector

(ST 1)

Pin assignment



Figure 18: Power Connector (ST 1)

1	+ 5VDC
2	+ 5VDC
3	GND
4	GND
5	(+ 12VDC)
6	GND
7	+24VDC
8	+24VDC
9	GND (24VDC)
10	GND (24VDC)

7. Input filter

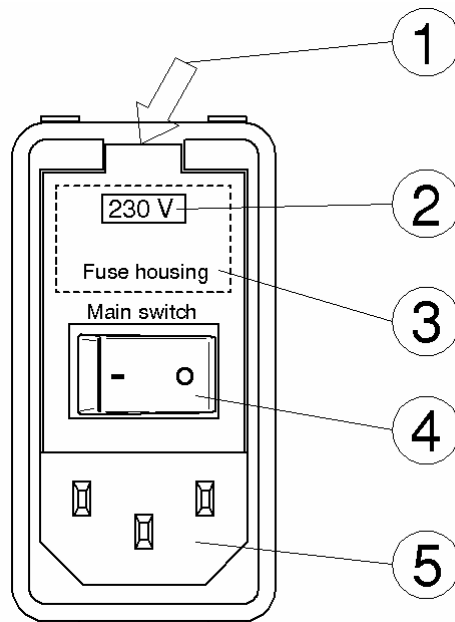


Figure 19: Input Filter

- 1 open here
- 2 Voltage selector
- 3 Fuse holder
- 4 Power switch
- 5 Power cable socket

5

For the different voltages you will need the following fuses:

115V / 60Hz	2 fuses à 1,6A time lag
230V / 50Hz	2 fuses à 0,8A time lag

Pin Assignment Power supply board V2

8. Power-Connector

(ST 1)

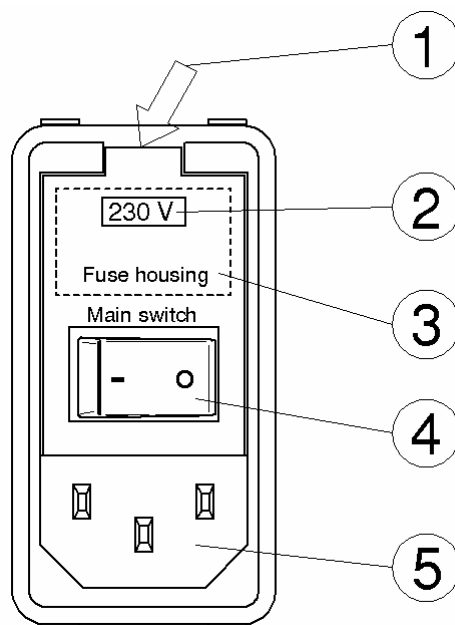
Pin assignment



1	+ 5VDC
2	+ 5VDC
3	GND
4	GND
5	(+ 12VDC)
6	GND
7	+24VDC
8	+24VDC
9	GND (24VDC)
10	GND (24VDC)

Figure 20: Power Connector (ST 1)

9. Input filter



- 1 open here
- 2 Voltage selector
- 3 Fuse holder
- 4 Power switch
- 5 Power cable socket

Figure 21: Input filter

For the different voltages you will need the following fuses:

115V / 60Hz	2 fuses à 1,6A time lag
230V / 50Hz	2 fuses à 0,8A time lag

Pin Assignment Chipcard reader V2

10. Card reading board Connector

(ST 1)

Pin assignment

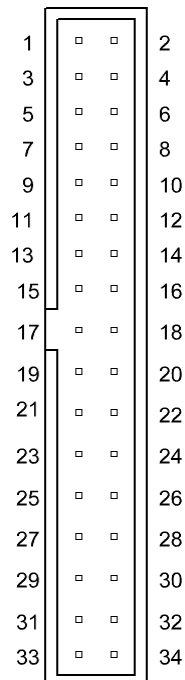


Figure 22: Card reading board connector (ST1)

1	GND
2	+ 5VDC
3	Contrast
4	RS
5	R/W
6	EN
7	D0
8	D1
9	D2
10	D3
11	D4
12	D5
13	D6
14	D7
15	Column 7
16	Column 6
17	Column 5
18	Column 4
19	Column 3
20	Column 2
21	Column 1
22	Line 3
23	Line 2
24	Line 1
25	GND
26	GND
27	CR VCC
28	CR Reset
29	CR SCL
30	GND
31	CR VPP
32	CR SDA
33	CR CDRin SW
34	CR VCC SW

11. LCD-Connector

(ST 2)

Pin assignment

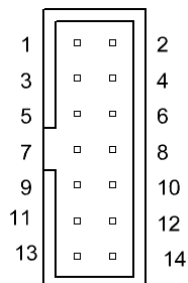


Figure 23: LCD Connector (ST 2)

1	+ 5VDC
2	GND
3	RS
4	contrast
5	EN
6	R/W
7	D1
8	D0
9	D3
10	D2
11	D5
12	D4
13	D7
14	D6

Pin Assignment Chipcard reader V2

Contd.

12. Keyboard-Connector

(ST 3)

Pin Assignment

10	Column 7
9	Column 6
8	Column 5
7	Column 4
6	Column 3
5	Column 2
4	Column 1
3	Line 3
2	Line 2
1	Line 1

Figure 24: Keyboard Connector (ST 3)

Pin Assignment Printer module V1

13. RS232 interface

(ST 3)

Pin assignment

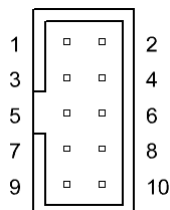


Figure 25: RS232 Interface (ST 3)

1	n.c.
2	n.c.
3	TxD
4	CTS
5	RxD
6	RTS
7	n.c.
8	n.c.
9	GND
10	n.c.

14. Printer-Connector

(ST 4)

Pin assignment

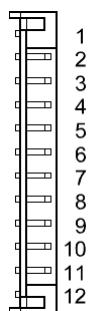


Figure 26: Printer Connector (ST 4)

1	n.c.
2	GND
3	SCL
4	GND
5	SDA
6	n.c.
7	GND
8	+ 5VDC
9	+ 5VDC
10	GND
11	n.c.
12	n.c.

15. Data-Connector Chipcard Printerboard (not used)

(ST 5)

Pin assignment

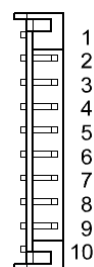


Figure 27: Data Connector Chipcard Printerboard (ST 5)

1	+ 5VDC
2	reset
3	SCL
4	Logic X
5	GND
6	VPP
7	SDA
8	Logic Y
9	Switch
10	Switch

Pin Assignment Printer board V2

16. Printer-Connector

(ST 1)

Pin assignment

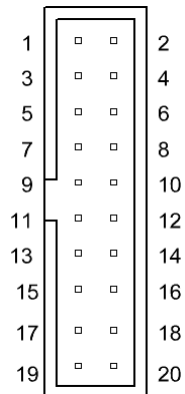


Figure 28: Printer Connector (ST 1)

1	VCC
2	VCC
3	VCC
4	GND1
5	GND1
6	GND1
7	Shield
8	PRT DOT1
9	PRT DOT2
10	PRT DOT3
11	PRT DOT4
12	PRT DOT5
13	PRT DOT6
14	PRT DOT7
15	PRT Mot
16	VCC
17	PRT Tacho
18	GND2
19	PRT Home
20	PRT PE

Pin Assignment RS232 board V1

17. Internal RS232-Connector

(ST 1)

Pin assignment

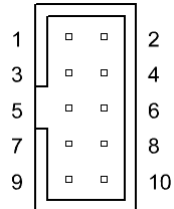


Figure 29: Internal RS232 Connector (ST 1)

1	BOOT
2	TxD 1
3	RxD 1
4	RTS 1
5	CTS 1
6	GND
7	TxD 2
8	RxD 2
9	RTS 2
10	GND

18. RS232-Connector

(ST 2)

Serial Port A
Pin assignment

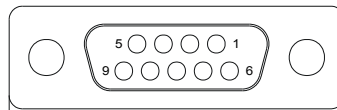


Figure 30: RS232 Connector (ST 2)

1	n.c.
2	TxD
3	RxD
4	n.c.
5	GND
6	n.c.
7	CTS
8	RTS
9	Boot

Note:

The pins marked with n.c. have been left open for possible additional features by the manufacturer. Make sure that these pins will NOT be occupied by any plugs from your data cables.

19. Internal RS232 for Printer

(ST 3)

Serial Port B
Pin assignment

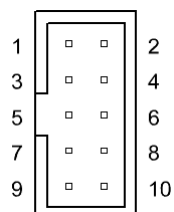


Figure 31: Internal RS232 for Printer (T 3)

1	n.c.
2	n.c.
3	RxD
4	RTS
5	TxD
6	n.c.
7	n.c.
8	n.c.
9	GND
10	n.c.

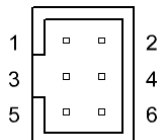
Pin Assignment RS232 board V1

Contd.

20. Connector 5 V Power for Printer

(ST 5)

Pin assignment



1	VCC
2	VCC
3	VCC
4	GND
5	GND
6	GND

Figure 32: Connector 5V Power for Printer (ST 5)

21. Connector 5 V Power for Printer

(ST 6)

Pin assignment



1	GND
2	(VCC / 3k3)
3	GND
4	(VCC / 3k3)
5	GND
6	VCC
7	VCC

Figure 33: Connector 5V for Printer (ST 6)

Pin Assignment RS232 board V2

22. Internal RS232-Connector

(ST 1)

Pin assignment

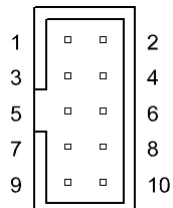


Figure 34: Internal RS232 Connector (ST 1)

1	BOOT
2	TxD 1
3	RxD 1
4	RTS 1
5	CTS 1
6	GND
7	TxD 2
8	RxD 2
9	RTS 2
10	GND

23. RS232-Connector

(ST 2)

Serial Port A
Pin assignment

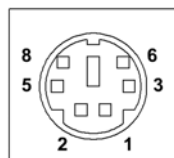


Figure 35: RS232 Connector Port A (ST 2)

1	BOOT
2	GND
3	CTS
4	n.c.)
5	TxD
6	RTS
7	n.c.)
8	RXD

24. RS232-Connector

(ST 3)

Serial Port B
Pin assignment

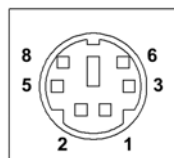


Figure 36: RS232 Connector Port B (ST 3)

1	n.c.
2	GND
3	n.c.
4	n.c.)
5	TxD
6	RTS
7	n.c.)
8	RXD

Note:

The pins marked with n.c. have been left open for possible additional features by the manufacturer. Make sure that these pins will NOT be occupied by any plugs from your data cables.

Software status CoaDATA 2001/4001

With the following software status you have an overview of the productions spaces of time.

Program Version	Release date	Boot-Loader Version	Release date	1 st Production Date	1 st Serial-No.
V2.00.00	14.02.2008	1.00	03.07.2007	July 2007 October 2007	J 03 7 3001 – 3004 K 08 7 3014 ->

Software Release Note

Previous Version	Version 2.00.00	Note:
No previous version present.	First released Softwareversion	CoaDATA 2001/4001 analyzers with Hardwareversion 2

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Manuals	
Service Manual, english CoaDATA 2001 / CoaDATA 4001	102-91-010-00
Standard Operation Procedures SOP, english CoaDATA 2001/ CoaDATA 4001	on request
Operator Manual, multi language CD-ROM for CoaDATA 2001/4001	102-96-020-00
Operator Manual, English Printed version CoaDATA 2001/4001	Not available
Bedienungsanleitung, Deutsch Gedruckte Version CoaDATA 2001/4001	Not available
Operator Manual, Spanish Printed version CoaDATA 2001/4001	Not available

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Printed Circuit Boards	
Main board PCB-No. 36.716-1 CoaDATA 4001	(104-10-019-00) Mainboards are customised. Contact Service Dept. for Order No. therefore transmit the REF no of instruments rating plate.
Main board PCB-No. 36.716-1 CoaDATA 2001	(102-10-019-00) Mainboards are customised. Contact Service Dept. for Order No. therefore transmit the REF no of instruments rating plate.
Power-Supply-Board V1, incl Pwr Filter PCB-No. 36.593-3 CoaDATA 2001 / CoaDATA 4001	Discontinued (80.000.0928)
Power Supply-Board V2, incl Pwr Filter PCB-No. 36.720-1 CoaDATA 2001 / CoaDATA 4001	102-11-039-00
Display cpl. CoaDATA 2001 / CoaDATA 4001	102-12-019-00
Chipcard-Reader V2 PCB-No. 52.115-0 CoaDATA 2001 / CoaDATA 4001	
Printing module V1 PCB-No. 8SH2-EPT/L Rev.C CoaDATA 2001 / CoaDATA 4001	Discontinued (80.000.0907)
Printer board V2 PCB-No. 36.718-0 CoaDATA 2001 / CoaDATA 4001	
RS232 board V1 PCB-No. 52.119-2 with 1x 9pin Sub D conn. CoaDATA 2001 / CoaDATA 4001	
RS232 board V2 PCB-No. 52.116-1 with 2x 6pin Mini-DIN conn. CoaDATA 2001 / CoaDATA 4001	

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Keyboard Overlays	
Membrane keyboard CoaDATA 4001, black	80.000.0909
Membrane keyboard CoaDATA 2001, black	80.000.0929
Membrane keyboard CoaDATA 4001, blue	
Membrane keyboard CoaDATA 2001, blue	

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Housing	
Top Housing white without Logo CoaDATA 2001 / CoaDATA 4001	102-03-029-00
Bottom Housing red without feet CoaDATA 2001 / CoaDATA 4001	
Bottom Housing blue without feet CoaDATA 2001 / CoaDATA 4001	
Rubberfeet, black CoaDATA 2001 / CoaDATA 4001	
Rating plate Only in combination with a bottom Housing	On request

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Cables	
Datacable for Cardreader CoaDATA 2001 / CoaDATA 4001	102-15-089-00
Datacable for Printer V1 CoaDATA 2001 / CoaDATA 4001	102-15-049-00
Datacable for Printer V2 CoaDATA 2001 / CoaDATA 4001	102-15-119-00
Cable for Printer Power V1 CoaDATA 2001 / CoaDATA 4001	102-15-059-00
Cable for 5V Power Printer V1 CoaDATA 2001 / CoaDATA 4001	102-15-079-00
Power Cable Mainboard V1 For use with Powersupply V1 CoaDATA 2001 / CoaDATA 4001	102-15-029-00
Power Cable Mainboard V2 For use with Powersupply V2 CoaDATA 2001 / CoaDATA 4001	102-15-039-00
Internal RS232 Cable CoaDATA 2001 / CoaDATA 4001	102-15-069-00
Power supply cord Germany CoaDATA 2001 / CoaDATA 4001	20.000.0559
Power supply cord US CoaDATA 2001 / CoaDATA 4001	20.000.0576
Data cable CoaDATA 2001 / CoaDATA 4001 (9pin Sub-D male / 9 pin Sub-D female)	80.000.0934
Data cable CoaDATA 2001 / CoaDATA 4001 (9pin Sub-D male / 25p. Sub-D female)	Discontinued (80.000.0935)
Programming cable CoaDATA 2001 / CoaDATA 4001 (9pin Sub-D male / 9 pin Sub-D female)	

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Cables	
Data cable CoaDATA 2001 / CoaDATA 4001 (6pin Mini-DIN / 9 pin Sub-D female)	
Programming cable CoaDATA 2001 / CoaDATA 4001 (6pin Mini-DIN / 9 pin Sub-D female)	
Data cable fpr Printer DPU 414 CoaDATA 2001 / CoaDATA 4001 (6pin Mini-DIN / 9 pin Sub-D male)	
RS232 Test plug SUB-D CoaDATA 2001 / CoaDATA 4001 (9 pin Sub-D male)	
RS232 Test plug Mini-DIN CoaDATA 2001 / CoaDATA 4001 (6pin Mini-DIN)	

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Thermal block for Micro Cuvette	
Thermal block compl. Suitable for Micro Cuvette, black CoaDATA 2001 (w/o PCB, w/o Light protection cap)	102-22-019-00
Thermal block compl. Suitable for Micro Cuvette, black CoaDATA 4001 (w/o PCB, w/o Light protection cap)	104-22-019-00
Thermal block compl. Suitable for Micro Cuvette, silver CoaDATA 2001 (w/o PCB, w/o Light protection cap)	102-26-019-00
Thermal block compl. Suitable for Micro Cuvette, silver CoaDATA 4001 (w/o PCB, w/o Light protection cap)	104-26-019-00
Thermal block for FL Cuvette	
Thermal block compl. Suitable for FL Cuvette, black CoaDATA 2001 (w/o PCB, w/o Light protection cap)	102-24-019-00
Thermal block compl. Suitable for FL Cuvette, black CoaDATA 4001 (w/o PCB, w/o Light protection cap)	104-24-019-00
Thermal block compl. Suitable for FL Cuvette, silver CoaDATA 2001 (w/o PCB, w/o Light protection cap)	102-28-019-00
Thermal block compl. Suitable for FL Cuvette, silver CoaDATA 4001 (w/o PCB, w/o Light protection cap)	104-28-019-00

Spare parts

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Small Parts	
Mixer- and Stirrermotor V4 CoaDATA 2001 / CoaDATA 4001	
Battery CR2032 CoaDATA 2001 / CoaDATA 4001	
Rubber seal CoaDATA 2001 / CoaDATA 4001	
Small parts kit V2 CoaDATA 2001 / CoaDATA 4001	
Fuses (spare) CoaDATA 2001 / CoaDATA 4001	
Dust cover CoaDATA 2001 / CoaDATA 4001	80.000.0908
Light protection cap , black Marked "yellow" for Eppendorf-Tip (1 Set = 4 pcs.)	80.000.0936
Light protection cap, black Marked "white" for LABiTec-Tip (1 Set = 4 pcs.)	80.000.0938
Light protection cap, black Marked "blue" (1 Set = 4 pcs.)	

Consumable material

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description	Order-No.:
Consumables	
Printer paper (1 Folding carton with 10 rolls of thermal paper)	30.000.0982
Bottle 15 ml (5 glass bottles 15ml, brown)	30.000.0724
Teflon stirrer (10 Teflon stirrer 3 x 13 mm)	30.000.1330
Disposable micro cuvette (1 carton with 12 folding cartons à 500 cuvettes incl. mixer)	Customized, on request
Disposable FL cuvette (1 carton with 12 folding cartons à 500 cuvettes incl. mixer)	Customized, on request

ChipCARDS

The following spare parts for CoaDATA 2001 / CoaDATA 4001 and Compatibles are available:

Description		Order-No.:
ChipCARDS		
ChipCARD PT CoaDATA 2001 / CoaDATA 4001	Programmed ChipCARD with Default setup for PT	Customised, On request
ChipCARD aPTT CoaDATA 2001 / CoaDATA 4001	Programmed ChipCARD with Default setup for aPTT	Customised, On request
ChipCARD Fibrinogen g/l CoaDATA 2001 / CoaDATA 4001	Programmed ChipCARD with Default setup for Fibrinogen g/l	Customised, On request
ChipCARD Fibrinogen mg/dl CoaDATA 2001 / CoaDATA 4001	Programmed ChipCARD with Default setup for Fibrinogen mg/dl	Customised, On request
ChipCARD Thrombin Time CoaDATA 2001 / CoaDATA 4001	Programmed ChipCARD with Default setup for Thrombin Time	Customised, On request
ChipCARD Intrinsic Factor CoaDATA 2001 / CoaDATA 4001	Programmed ChipCARD with Default setup for Intrinsic Factor	Customised, On request
ChipCARD Extrinsic Factor CoaDATA 2001 / CoaDATA 4001	Programmed ChipCARD with Default setup for Extrinsic Factor	Customised, On request
ChipCARD blank CoaDATA 2001 / CoaDATA 4001	ChipCARD without setup for backup own testsetups	On request

Service assistance

Important

Guidelines for getting service assistance

Contact

Contact

Guidelines for getting service assistance

For getting service assistance please note that we need at least a minimum of important informations.

1. Customer identification

Customer
Name
Address
Email
Telephone
Fax
Distributor / Enduser

2. Analyzer

Type of analyzer	Type:
Serial-Number	SN:
Reference number	REF
Softwareversion	

3. Discribe the problem as detailed as possible

Display Messages
Printouts
Screenshots
Photos

May clarify the situation.

4 In case of analytical problems further informations will be needed

Test type	eg. PT, aPTT, Fibrinogen, ...
Sample	(Patient sample, Control N, Control P, dilution, ...)
Reagent	Manufacturer, Name of reagent, Order number, Lot-No, date of expire
Results	rated results, actual measured results, raw value in seconds, converted
values	
Conversion	Conversion table, ISI, ...

Discribe the problem as detailed as possible.

Note:

Supporting our service department with the basic informations as detailed as possible will help us to give you the needed assistance.

Thank you in advance.

Contact

In case of needed service assistance please contact us at:

LABiTec
LABor BioMedical Technologies GmbH
An der Strusbek 6
22926 Ahrensburg, Germany

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Phone: +49 4102 4795 0

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Document release notes

Revision	Date	Note
Rev. 0	October, 2008	1 st release of Servicemanual CoaDATA 2001/4001 & compatibles Hardware Version 2

